2015-2016 TBR Course Revitalization Project Summary

Course: BIOL 2010
Other:
Past Student Headcount:915  ABC%: 54.8
Description:

Anatomy and Physiology I is a course that contains a large amount of content and demands that instructors typically spend most of their time with students introducing the material through lecture. Students passively listen to lectures, read PowerPoint slides, or take notes. These activities do not require students to think about the content or synthesize the concepts presented. Little time is available to assess comprehension in class or apply content knowledge in real-life clinical situations. Most of the learning assessment in this course is done in the form of high stakes evaluations. For the revitalized course, we propose using recorded lecture videos that efficiently deliver the content and orient the students with important content knowledge before coming to class. Faculty at Columbia State can use the Panopto lecture capture server to create recorded lecture videos. Both team members have experience using the Panopto system for lecture courses. Having lectures outside of class will free time for many productive classroom activities. In the classroom, students will be held accountable for watching lectures outside of the classroom by taking low-stakes formative assessments (detailed in answer to question 6). In response, instructors will be able to clarify poorly understood topics and students will be able to ask more meaningful questions. Students will also be able to interact with one another in small discussion groups to organize knowledge, improve comprehension, apply the content in real-life case studies, and form a sense of community with other classmates. The lead team member of this grant has experience using Turning Technology clickers for in-class assessment and has experience using case studies from the National Center for Case Study Teaching in Science collection. After class, students will use the Pearson Mastering A&P system that accompanies our textbook to self-assess mastery of each topic. Faculty teaching this course at Columbia State already use the Mastering A&P system.

Academic Problem:

There are two major problems that the revitalized course format will address. First, current structure of our Anatomy and Physiology I courses emphasizes high-stakes exams as the major form of assessment without giving students clear methods for self-assessment of knowledge gained. Second, this course contains a large amount of content that typically exceeds most other courses taken within freshman and sophomore college coursework. Students often lack the proper study skills and time management to prepare effectively.

Explain how the revitalized course will enhance student learning and improve student success: While we will retain high-stakes assessment as an important indication of students’ ability to retain knowledge and be successful in future science and health care courses, a key difference in the revitalized course is that students will have more resources that will more effectively engage the student in the course content inside and outside of the classroom. The highly structured nature of the revitalized course has three important phases: pre-class lecture, in class activities, review questions after class. This structure will help students improve time management by helping them to easily identify the tasks they should be performing to be successful in the course. Providing recorded lecture videos will allow students to work through the large amount of content in smaller increments of 10-15 minutes as opposed to traditional live lectures that are much longer. Students will be able to pace themselves and spend additional time on more difficult topics. Time spent in the class will be much more productive for student learning. The time typically spent in classes doing lecture will be freed for activities that encourage communication between instructors classmates compared to the traditional lecture course. This course structure also frees time for instructors to discuss effective study skills that will improve student success in all college course work.

Pilot Phase and objectives:
During the pilot phase of the project, each team member will teach one lecture section of the course using the revitalized format. In addition, each team member will teach a lecture section of the course using traditional lecture format. This experimental setup will allow the team to make relevant comparisons of the two types of courses by isolating the difference in pedagogy as the only variable between courses. More specifically, direct comparisons of student success rates, knowledge gained relevant to course objectives, and impressions of student experience in each of the two classroom formats will be assessed. A description of these assessments follows in responses to later questions.

**Project Steps:**

In the spring and summer, a significant amount of time will be dedicated to scripting lectures, recording lectures, writing clicker-based formative assessment questions, writing in-class activities, and selecting Mastering A&P assignments. As a first step, team members will meet in spring to divide the content in the course and assume responsibility for creating revitalized course lectures and in-class activities for the corresponding topics. In the summer, team members will complete scripting and recording of lecture videos, and meet to discuss drafts of in-class activities. The team members will collaborate with other full-time faculty members at Columbia State to write questions that assess comprehension and embed those questions into major assessments during the semester. This process will be very important for measuring the performance of students in each type of course. By the beginning of the Fall 2015 semester, all content will be ready for implementation in the revitalized course sections. The team members will meet weekly to discuss effective implementation of in-class activities and discuss common misconceptions about the course material. Data will be progressively collected during the implementation about student learning during the pilot phase (see response to question 7) and analyzed by the pilot course instructors.

**Formative Evaluation Methods:**

Before the fall semester, the team members will select questions pertaining to course content specified in the Columbia State Anatomy and Physiology I course learning objectives found in the course syllabus. The selected questions will be embedded into each of the four major exams given through the semester given to both students in traditional lecture courses and students in the revitalized courses. Data concerning the percentage of students who answer these questions correctly will be assessed and analyzed after each major exam. These data will provide some perspective about how students are performing in the experimental revitalized courses compared to the traditional lecture courses. In addition, students will complete an assessment of the revitalized course format that will provide information about the student’s experience independent of the instructor.

**Who is required to take the course?**

Students often take this course to apply to one of the health care programs at Columbia State including nursing, radiologic technology, and respiratory therapy. Students who are declared majors in the Tennessee Transfer Pathways pre-physical therapy, pre-occupational therapy, and exercise science programs must also take this course. Students who plan on applying to physical therapy assistant, occupational therapy assistant, or dental hygiene programs at other institutions also take this course.

**Collaborative Submission:**
2015-2016 TBR Course Revitalization Project Summary

Course: ENGL 1020
Other:
Past Student Headcount: 3479   ABC%: 80

Description:

For decades, the traditional course served as a bridge from ENGL 1010: Expository Writing and to ENGL 2030: The Experience of Literature. All three of the required general education courses in English were thus connected despite the fact that the two writing courses fell under the “Communications” category and the literature class, under the “Arts/Humanities” category. Teachers typically explained to students: By giving you practice writing focused paragraphs and themed essays, English 1010 prepares you for English 1020. By giving you practice using source material and writing about literature, English 1020 prepares you for English 2030.

In 2010, the English department severed the connection between English 1020 and English 2030 by removing the literary component of the course. Since then, teachers have been encouraged to conceptualize the course as serving the entire academic community: in other words, English 1020 teaches skills necessary for research and writing across the curriculum. Typically, students receive instruction in how to summarize, paraphrase, and integrate direct quotes, completing short papers that demonstrate their ability to use source material responsibly. Students then research a problem or issue, ideally in their projected field of study, producing an annotated bibliography and finally a research paper with a clear thesis, supporting evidence, and a properly formatted works cited page. A random sampling of these research papers is then used for the TBR-mandated assessment of student writing.

Although this reconceptualization of the course created more space for students to gain informational literacy, the expectation of two essays, an annotated bibliography, and a formal research paper—all produced in a 15-week period—too often led to, at best, cursory readings of texts, and at worst, plagiarized papers. (The random sampling of research papers for the 2014 assessment contained a whopping 10% of plagiarized papers. Also, a surprising number of teachers submitted annotated bibliographies rather than research papers for the assessment, indicating that they may have run out of time for the research paper.) Furthermore, the idea that one 15-week class can prepare students to write and conduct research suggests that students are being “inoculated” in their first-year writing courses and thus do not require further writing instruction. According to the Council of Writing Program Administrators (CWPA), a large body of research [demonstrates] that the process of learning to write in any medium is complex; it is both individual and social and demands continued practice and informed guidance.

The revitalized course will serve students rather than disciplines and teachers. For the first half of the course, students will apply their knowledge of the rhetorical situation and of rhetorical/composing strategies (learned in English 1010) to the practice of reading increasingly difficult academic texts. In the traditional course, students may be asked to read as many as a dozen published essays in addition to the source material they are gathering for their research papers. The revitalized course will limit the number of assigned essays in order to encourage the practice of deep (re)reading and thorough rhetorical analysis. Students will thus exit the class with strategies for reading academic texts actively and critically. By emphasizing the process of reading rhetorically and by connecting this process to the choices students can make in their own writing, English 1020 responds to current composition theory and practice focusing on transfer: students will be sharpening skills they will use in other courses and writing contexts.

In the second half of the course, students will write their own academic essays. Although this writing project will require informational literacy, the aim will not be to produce a research paper. (Instruction in conducting research that results in a research paper should be the responsibility of each department as part of a gateway course for majors—the equivalent of MTSU’s English 3000: Introduction to Literary Studies.) Students will propose their own topics, locate the magazines/journals/websites where their topic is being discussed, determine the rhetorical
situation for their written text (exigence, audience, and purpose), and engage in an extended, recursive writing process that culminates in an original essay that contributes to an ongoing academic conversation.

The revitalized course will shift the audience for students’ writing from the teacher to the academic community. In the traditional course, students’ arguments tend to have no utility beyond the classroom, and yet current research in composition studies shows that students are more likely to engage in meaningful ways with their writing when it has the potential to effect change. Just as MTSU celebrates and promotes undergraduate research, in all disciplines, during Scholars Week, students enrolled in the revitalized English 1020 will present their work at an English department Scholars Day (complete with judges and prizes), thus providing an audience and purpose for students’ writing. Students producing particularly strong projects will be encouraged to submit to an undergraduate journal such as Young Scholars in Writing.

In sum, the revitalized course will differ from the traditional course in three primary ways: (1) by giving students more practice (re)reading difficult texts, (2) by extending the amount of time students spend planning, drafting, researching, and revising an academic essay, and (3) by providing a public forum for the presentation and recognition of students’ work.

**Academic Problem:**

In addition to the problem of definition and scope (described above), the revitalized course will address the weaknesses documented in seven years of English 1020 assessment reports, specifically those identified in the following three outcomes, all of which have had consistently high Unsatisfactory rates.

**Outcome B:** The student writer gives a clear purpose and audience.

**Outcome D:** Students are able to develop their ideas using appropriate rhetorical patterns (e.g., narration, example, comparison/contrast, classification, cause/effect, definition).

Sustained reading instruction will address both of these outcomes. Guiding students through rhetorical analyses of published texts will introduce them to the rhetorical strategies authors draw from, and class discussions will give students an improved understanding of the effects these rhetorical choices have on readers. Engaging students in reflection by prompting them to consider how they could achieve their own purpose for a given text through the use of similar rhetorical strategies will help students become more confident in meeting the needs of diverse academic audiences. The opportunity to present their work at English 1020 Scholars Day will reinforce the importance of anticipating the needs of one’s audience.

**Outcome F:** Students are able to manage and coordinate basic information gathered from multiple secondary sources.

Research published by composition scholars such as Rebecca Moore Howard shows that students benefit when their instructors attend to how well students understand and can summarize source material. The current focus on teaching a particular documentation style in English 1020 is distracting from the more meaningful role sources play in student writing, as instruction in using sources too often focuses on the mechanics of citation and fails to account for the important role reading comprehension plays in effective source use. Also worth noting is that the traditional pace of the course and its heavy reading load discourage close reading and promote misuse of sources, including patchwriting and plagiarism. Ten essays—accounting for 10% of the randomized final sample—had to be removed from the 2014 assessment project’s grading session due to plagiarism, indicating how widespread this problem is. Reducing the number of assigned readings and limiting the amount of outside research in favor of repeated rhetorical readings of common texts, regular instruction in how to craft accurate summaries, and support in effectively incorporating source material into student writing will address this serious problem.

Finally, the revitalized course will address the problem of instructor fatigue. Instead of feeling overwhelmed by all
they are expected to accomplish in a 15-week semester, English 1020 teachers (most of whom teach a 5/5 course load) will recognize the purpose of the course and consider its outcomes within reach. Most importantly, the revitalized course will allow teachers to work more closely with students: an intense focus on rhetorical analysis will allow teachers to target weaknesses in individual students’ reading skills, and extending the amount of time students spend working on one substantial academic essay will allow teachers to guide each student as s/he engages in a recursive writing process.

**Explain how the revitalized course will enhance student learning and improve student success:** The revitalized course will enhance student learning by adhering more closely to the disciplinary standards outlined in the WPA Outcomes Statement for First-Year Composition. This statement (adopted 17 July 2014) describes the knowledge, practices, and attitudes fostered in freshmen writing courses that should be reinforced in coursework at all levels and in all disciplines.

1. **Rhetorical Knowledge** is the ability to analyze contexts and audiences and then to act on that analysis in comprehending and creating texts. Rhetorical knowledge is the basis of composing.

   English 1010 introduces students to the rhetorical situation, focusing on the creation of a variety of texts that take into consideration audience and purpose. Students thus exit the class with a new understanding of what it means to write. English 1020 will focus more intently on comprehending increasingly difficult texts. Students will exit the class with a new understanding of what it means to read and thus a greater appreciation of the different ways to write.

2. **Critical Thinking** is the ability to analyze, synthesize, interpret, and evaluate ideas, information, situations, and texts. These practices are foundational for advanced academic writing.

   Improving students’ critical thinking skills will be at the heart of a revitalized English 1020. Specifically, students will meet the following WPA learning outcomes:

   a. Use composing and reading for inquiry, learning, critical thinking, and communicating in various rhetorical contexts

   b. Read a diverse range of texts, attending especially to relationships between assertion and evidence, to patterns of organization, to the interplay between verbal and nonverbal elements, and to how these features function for different audiences and situations

   c. Locate and evaluate (for credibility, sufficiency, accuracy, timeliness, bias and so on) primary and secondary research materials, including journal articles and essays, books, scholarly and professionally established and maintained databases or archives, and informal electronic networks and internet sources

   d. Use strategies—such as interpretation, synthesis, response, critique, and design/redesign—to compose texts that integrate the writer’s ideas with those from appropriate sources

3. **Writers use multiple strategies, or Composing Processes, to conceptualize, develop, and finalize projects.** Composing processes are seldom linear: a writer may research a topic before drafting, then conduct additional research while revising or after consulting a colleague. Composing processes are also flexible: successful writers can adapt their composing processes to different contexts and occasions.

   English 1010 builds on students’ prior knowledge of and experience with composing processes by having them complete 4-5 writing projects, with the focus on adapting to different contexts. English 1020 will emphasize the idea that composing processes are seldom linear by having students engage in an extended, recursive process that culminates in one substantial academic essay with a clear audience and purpose.
4. Conventions govern such things as mechanics, usage, spelling, and citation practices. But they also influence content, style, organization, graphics, and document design.

Despite decades of research, including work such as Andrea Lunsford’s "Mistakes are a Fact of Life: A National Comparative Study" (2008) proving that focusing on correctness does not improve students’ writing, many teachers remain committed to a pedagogy intent on eliminating error. English 1020 will instead focus on the reasons behind various conventions, especially citation practices, with the aim of helping students develop academic integrity.

The revitalized course will improve student success by giving students a reason to invest themselves in their reading, writing, and research. By choosing topics related to their projected fields of study, first-year students will see that English 1020 is not a detour but a means to explore their own interests. Students who make the connection between general education and upper-division coursework are more likely to stay in school. Furthermore, English 1020 Scholars Day will showcase students’ skills—written and oral—providing a public forum that recognizes students as apprentice-scholars. Students who see themselves as apprentice-scholars are more apt to work hard, earn high grades, and satisfy degree requirements in a timely manner.

Data collected and analyzed by MTSU’s Office of Institutional Effectiveness, Planning, and Research underscores the importance of student success in English 1020, making the case that English 1020 performance is “highly predictive” of graduation as well as GPA at graduation.

An MTSU analyst compared the GPA at graduation of students who earned a B or higher in English 1020 to the GPA of those who passed the course with less than a B. The total number of students included all those who graduated and had a final grade in English 1020 prior to graduation. MTSU has course data going back to Fall 2007, so the total number was 7,682.

English 1020 Grade: B or Higher

Headcount: 5388
Average College GPA: 3.24
SD College GPA: 0.413

English 1020 Grade: Less than B

Headcount: 2294
Average College GPA: 2.85
SD College GPA: 0.371

The data analyst then ran a t-test on the two groups and found a reliable difference between the groups’ GPAs (t = 39.1, p < .001), concluding that “from an inferential statistics standpoint,” the difference in GPAs “is very likely a generalizable and robust effect, not just a coincidence.”

The data analyst then investigated 6-year graduation rates, pulling cohorts of incoming freshmen in 2007 and 2008—a total of 7,032. Of this group, 4,429 had a grade in English 1020 before graduating. (The remainder could have dropped out of school or may still be enrolled.) The graduation rate breakdown for the 4,429 led the analyst to conclude that “graduation does reliably depend on English 1020 grade.”

English 1020 Grade: B or Higher

Headcount: 2881
Number of Grads in 6 years: 1935
Graduation Rate: 67.16%

English 1020 Grade: Less than a B

Headcount: 1948
Number of Grads in 6 years: 706
Graduation Rate: 36.24%

Pilot Phase and objectives:
We will pre-pilot the revitalized course in the summer with two sections taught by Laura Dubek. Julie Barger will pilot two sections of the revitalized course in the fall. Throughout this process, the English department will be kept informed and given the opportunity to provide suggestions for revising the course to further improve student learning.

Project objectives:
1. To increase student engagement with course content, each other, and their instructor.
2. To raise standards while also increasing the level of achievement in the TBR General Education Assessment of Learning Outcomes in Writing
3. To increase the number of students passing the course with a B or higher (thereby improving retention and graduation rates)
4. To support instructors and students by developing a departmental implementation plan to improve student success in English 1020

Project Steps:
1. Review disciplinary learning objectives: NCTE (National Council of Teachers of English), CCCC (Conference on College Composition & Communication), CWPA (Council of Writing Program Administrators), and ALA (American Library Association)
2. Review current department learning objectives and sample syllabi
3. Review equivalent curriculum at peer institutions
4. Identify programs employing the most current composition theory and practice
5. Survey faculty currently teaching the course
6. Consult with course redesign specialists at the LT & ITC
7. Review textbooks and/or handbooks
8. Write learning objectives
9. Write assignments
10. Write a 15-week schedule
11. Present proposed course to faculty for review
12. Solicit volunteers to teach revitalized course
13. Pilot course and gather formative assessment data
14. Use summative evaluation to revise learning objectives/assignments/schedule
15. Present revised proposal to faculty for review
16. Submit revised course proposal to Chair, Dean, and Curriculum Committee for approval

Formative Evaluation Methods:

A random sample of essays from the revitalized course will be assessed using the same rubric the English department has been using to report on student outcomes to TBR since 2008. The scores will then be compared, in each category, to the average scores from the last seven years to measure the effectiveness of the revitalized course-delivery methods.

Who is required to take the course?

Every degree-seeking undergraduate must take ENGL 1020, including transfer students who have not earned a C- or higher in an equivalent course. Incoming freshmen with a 34 or higher ACT score and transfer students with CLEP credit for Composition II are exempt from ENGL 1020.

In AY 2013-14, 3,479 students took this course.

English 1020 is perhaps the most important course in the general education curriculum. MTSU does not have a writing-across-the curriculum (WAC) program, nor do many departments have a writing intensive course for their majors. As a result, English 1020 may be the only class in which students receive sustained instruction in the ways of reading, thinking, and writing necessary for success in college and in the professional arena.

Collaborative Submission:

Although the redesign of English 1020 is not part of a collaborative with another submission, this work does respond to the Provost’s call for a general education curriculum characterized by innovative pedagogies that encourage student engagement and lead to student success.

Both team members will bring to bear their disciplinary knowledge, a combined total of 20 years of teaching experience and 10 years of administrative experience facilitating the professional development of GTAs (Barger) and contingent faculty members (Dubek)--the faculty largely responsible for teaching English 1020--as well as their participation in the redesign of English 1010 and in faculty learning communities focused on General Education (Dubek) and Common Core (Barger and Dubek).
2015-2016 TBR Course Revitalization Project Summary

Course: MATH 1530
Other:
Past Student Headcount:2300   ABC%: 64.2
Description:

This proposal is collaboration between the Mathematics Department and the English Department to strengthen success in MATH 1530 and ACAD 1100 which rank 2nd and 3rd with respect to high enrollment and high D,F,W rates. (See Appendix A) While these courses will be offered for enrollment to any student, a specific goal is to better prepare our entering students with math deficiencies that will also be enrolled in a required co-requisite math support course starting in the fall 2015.

The traditional MATH 1530 Probability and Statistics course is a lecture based course with online study aids wherein the individual instructor determines the designated course pacing which is identical for all students. The traditional ACAD 1100 Academic Success course provides an orientation to the college environment, acquaints students with study skills, and prepares students for college success.

The proposed revitalized ACAD course will differ from the traditional course by having a very specific embedded study skill component related directly to the Statistics course for which the student in also enrolled. The revitalized Statistics course will be an enhanced lab version of the traditional Statistics course. The idea is that current units taught in ACAD which focus on motivation, organization, time management, listening skills, test anxiety, note taking, test preparation for and taking tests, and interaction with Instructors will be redesigned to reflect the specific curriculum the student is also encountering in his/her Statistics course. In this new approach the student is able to integrate material from two different courses to help strengthen their understanding of applying concepts in both classes. The following highlights additional advantages over the current traditional courses:

- Any student enrolled in the pilot enhanced Statistics course will also be enrolled in specific ACAD sections. These ACAD sections will contain the newly developed curriculum to support the needed study skills for their Statistics course. Hence, these students will naturally form a learning cohort and studies indicate that students perform better in this environment.

- Statistics students will be required to show mastery learning on homework, quizzes, and test preparation material prior to taking module exams. In our traditional classes, students are able to take exams regardless of whether the assigned work prior to a test has been completed. ACAD lessons will instruct the students on the concepts of mastery learning, listening skills, test anxiety, preparing for Statistics tests, and help students with the organization needed to stay on task.

- Traditional classes do not always incorporate active learning and much of the class time is spent in a lecture environment with the student taking notes.

The enhanced Statistics classroom environment will require active learning. Students will be asked to watch lecture videos at home, complete guided lecture notes for each unit, and work on practice problems during class time with the aid of their instructor. ACAD lessons will reinforce the proper way for students to complete their guided lectures and help with the time management skills necessary to be successful.

- Traditional lecture math classes have little time to work with students individually on the proper method of writing math solutions, yet this is a crucial skill for success in every math course. Students will be given an example notebook that shows how to write and organize their solution process for math practice problems. The notebook requires a lot of organization and specific procedures to be followed for each of the concepts taught.
The ideas and concepts presented in the Statistics class with respect to correctly writing a mathematical solution will be complemented and reinforced with additional instruction in the ACAD class.

**Academic Problem:**

Many of our Southwest Tennessee Community College students could be considered “bridges out of poverty” students, meaning there are many unusual barriers these students often face in successfully completing their courses. To complicate matters, institutional data indicates that approximately 80% of new students entering Southwest Tennessee have math deficiencies. Southwest currently has the largest learning support enrollment of all 19 TBR colleges. Since students who take remedial education courses are less likely to persist, it is critical for our college to explore ways to better prepare our students for success in math.

Due to the rigor and curriculum demands in the Statistics classes, there is very little time to cover the in-depth study skills needed to be successful. Since most of our students come with a lack of academic preparation, it is crucial to find a way to invest more time in teaching these skills. Therefore, this proposal seeks to form a meaningful link between the study skills needed to be successful in Statistics and the concepts being taught in our Academic Success course.

College culture is known to play a role in student success as well. Due to the personal barriers and lack of academic preparation facing our students, it is difficult to engage them in the academic and social experiences such as participation in extracurricular activities, study groups, or taking advantage of support services like tutoring. By linking these courses together, the students will naturally be placed with peers facing the same the challenges. Studies show that this type of student-to-student support and the connection formed in this type of learning cohort will boost success.

**Explain how the revitalized course will enhance student learning and improve student success:** The revitalized courses improve student learning by providing an environment for students to immediately apply specific study skills learned in Academic Success to concepts being taught in their Statistics course. Thus, learning in both courses becomes enhanced and the student benefits from practical application in two areas. This learning model encourages the student to approach their studies by asking questions to synthesize the knowledge rather than just accumulation of facts to be utilized at a later time.

The Statistics course materials will be individualized with on-demand instruction. This method will work well with the specific Statistics study skills being taught in the ACAD course. Individualized mastery learning allows the students to spend more time on concepts they have trouble understanding and less time on concepts they have mastered. Also, the statistics course design enhances student learning with immediate feedback from the interactive course materials. This empowers students to know whether to remEDIATE, apply a different study skill, or move to the next concept.

Additionally, students have a higher tendency to be successful when they have a clear understanding of the entire course expectation. The module format to be used divides the curriculum into smaller learning units which allows the student to feel a sense of accomplishment thereby encouraging perseverance. Another benefit of breaking the curriculum into smaller learning units is the ability to import mastered learning units in the next term if needed. Thus, in the event a student fails or must withdraw from Statistics, the student still achieves some level of success by being able to pick up where he left off the previous term. Statistics is such a stumbling block towards degree completion for so many students, this opportunity will allow students to move forward toward their degree without getting caught in the cycle of withdrawing and repeating which is seen so many times in traditional classes.

**Pilot Phase and objectives:**
During the fall of 2015, the pilot phase will consist of two sections of enhanced MATH 1530 Statistics along with two sections of ACAD 1100 which will incorporate the specific Statistics study skill component. During this pilot phase we will utilize analytics from Pearson to track and monitor student progress. Since students will be enrolled in both courses, the instructors will meet regularly to discuss any curriculum adjustments and assess student progress and retention. The project objectives are as follows:

1. Provide formal instruction in ACAD 1100 that will allow each student to receive the necessary time management, note taking, and test preparation skills needed to be successful in Statistics.
2. Provide course content in Statistics that can be delivered in individualized units where the student can apply specific study skills at their own pace with Instructor guided help.
3. Develop a progress report to be used for student and Instructor communication.
4. Provide Instructor developed smart phone videos for difficult content related to statistics and study skills in order for students to refresh as needed.
5. Provide an opportunity for students who do not pass the course to import their previous work into the next semester allowing the student to retain credit for work in which they have demonstrated mastery.
6. Provide an opportunity for targeted remediation with Instructor developed materials in Statistics and Instructor developed support remediation study material to be utilized in Academic Success.
7. Provide a learning cohort for students taking Math 1530 and Acad 1100 which will allow for strong study groups, a sense of community and a team-based learning experience.
8. Improve the student’s understanding of curriculum in Statistics as measured by assessing the five TBR general education mathematics assessments.
9. Increase the percentage of students passing Math 1530 and Acad 1100.

**Project Steps:**

- Create syllabi for the enhanced Math 1530 and the Acad 1100 outlining all aspects of the course.
- Develop Statistics study skill curriculum specific to the enhanced Math 1530 for use in Acad 1100.
- Create curriculum adjustments to statistics modularized learning units.
- Create Instructor developed smart phone videos.
- Develop progress report system.
- Create remedial material to be used.
- Create policies and procedures for students who fail or withdraw and will enroll the next term.
- Establish cohort classes and outline policies and procedures.
- Establish data collection process, timelines, and procedures.

**Formative Evaluation Methods:**

The following pilot data will be assessed and discussed by team members at the end of the fall 2015 to determine if the program should be continued and/or modified for improvement.
• End of course data comparing course pass rates for the learning cohort versus the control group which is all students enrolled in both Math 1530 and Acad 1100 using our current curriculum.

• Student Learning Outcomes will be assessed for cohort students versus the control group by embedding questions on the final exam to assess the following:
  o Use mathematics to solve problems and determine if the solutions are reasonable.
  o Use mathematics to model real world behaviours and apply mathematical concepts to the solution of real-life problems.
  o Make meaningful connections between mathematics and other disciplines.
  o Use technology for mathematical reasoning and problem solving.
  o Apply mathematical and/or basic statistical reasoning to analyze data and graphs.

• Pearson analytics showing mean and median for each module exam will be assessed for the learning cohort versus the control group.

Who is required to take the course?

Statistics is the largest general education offering for Mathematics at Southwest Tennessee Community College. It is used by 85% of our college programs as a graduation requirement.

Approximately 2300 students enroll in Statistics annually. (See Appendix A) Additionally, with the math co-requisite model being utilized starting fall 2015, the annual enrollment will increase to approximately 4000 students.

Collaborative Submission:

This proposal is a collaboration between the Mathematics Department and the English Department to strengthen success in MATH 1530 and ACAD 1100 which rank 2nd and 3rd with respect to high enrollment and high D,F,W rates. (See Appendix A) While these courses will be offered for enrollment to any student, a specific goal is to better prepare our entering students with math deficiencies that will also be enrolled in a required co-requisite math support course starting in the fall 2015. The revitalized courses will improve student learning by providing an environment for students to immediately apply specific study skills taught in Academic Success to concepts being taught in their Statistics course. This collaboration allows for a cohort of classes where Instructors meet regularly to discuss student progress and work together to improve student success.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: ORN 1010 - Orientation: Learning to Succeed
Past Student Headcount:536   ABC%: 70.3

Description:

The pilot will identify 20 new first time freshman applicants with ACT subscores below 19 in math, reading and English. The students will enroll in a block of four modular courses: ORN 1010 (Orientation: Learning to Succeed), MATH 0810 (Learning Support Math), READ 0810 (Learning Support Reading) and ENGL 0810 (Learning Support Writing) offered at the Dyersburg campus location. Traditionally, students take four courses that span the entire 16 week semester. The goal is to revitalize ORN 1010 so that students achieve more success in Learning Support MATH 0810, READ 0810, and ENGL 0810. In other words, we are taking a stand alone course that has a proven record for student retention and success and revitalizing it so the highest at-risk students can learn, internalize, and apply what they learn in ORN 1010 directly into their learning support courses. We are inserting a strong foundation for success the first half of the first semester for at-risk students.

We plan to offer four, three credit hour courses in two, 7 ½ week sessions. The first 7 ½ week session will pair MATH 0810 with the revitalized ORN 1010. The second 7 ½ week session will pair ENGL 0810 and READ 0810, which will have ORN 1010 readings and required reader response writings embedded in the curriculum. There are several reasons for this revitalized approach:

During student forums conducted on campus, students commented that they wanted the opportunity to concentrate on fewer classes at a time, especially learning support courses. We want to respond to the needs our students expressed, and we believe the short, intense courses will allow them to opportunity to focus their energy on fewer subjects at once resulting in increased student success. The ORN 1010 revitalized course becomes a critical component because this course will channel their focus on the course(s) they are working on and provide a network of support to help students succeed.

Past experience with compressed schedules leads us to believe that taking fewer courses at once is helpful for students. For example, Learning Support math students enrolled in compressed courses during Summer 2013 had 68.3% of students successfully completing their course. Under a full semester schedule, however, only 41.0% (Fall 2013 and Spring 2014 combined) successfully completed Learning Support Math. We believe that a 7 ½ week schedule will replicate the conditions that lead to student success in Summer 2013.

In a traditional semester, students may or may not have classes in common with other students. A growing number of studies show that learning communities which foster relationships among students and faculty help improve student success, persistence, and retention. Since the students in the pilot will take all four courses as a block, instructors will have opportunity to intentionally help students develop supportive relationships with one another, particularly by helping the students apply techniques learned in the revitalized ORN 1010 course.

Traditionally, courses are taught in isolation. Material taught in one course may not necessarily enhance content taught in a different course. Also, concepts learned in ORN 1010 may not be applied directly in other courses. For our pilot, we will reexamine student learning outcomes and look for areas of similarity between the paired courses. Concepts from the revitalized ORN 1010 course will be put into practice in the other learning support courses, with purpose. We will point out overlapping learning objectives to students and use them to reinforce content and practice skills common to the courses in our learning community.

Academic Problem:

* Academic Problem: Lack of courses for students who test into all three learning support courses
Our institution is implementing the co-requisite model in Fall 2015. Every student in a Learning Support course will also enroll in a paired college-level course. Composition I (ENGL 1010) and Statistics (MATH 1530) are the college-level courses we will pair with Learning Support Writing (ENGL 0810) and Learning Support Math (MATH 0810), respectively. Both college-level courses require reading proficiency and students will need to complete Learning Support reading competencies before enrolling in either of these co-requisite paired courses. In the Fall 2013, there were 816 new freshmen and 204 (25%) had Learning Support requirements in reading, writing and math. Before the co-requisite model, students needing to fulfill competencies in all three areas could take all three Learning Support courses and another course to enroll as a full-time student. Under the new co-requisite guidelines, the literacy class (reading) should be taken the first semester and math the second semester. In addition, under Dyersburg State’s co-requisite guidelines, students will have to take the literacy class before they can take the Learning Support English course (ENGL 0810) paired with the college-level English composition course (ENGL 1010). Therefore, students who have Learning Support requirements in all three areas must wait a semester to begin math and writing classes. The students who must complete competencies in all three Learning Support areas have very few courses available to them in their degree plans and will have difficulty enrolling as a full-time student. Our pilot allows students to complete their Learning Support requirements in one semester, their first semester, and to earn college-level credit toward their degree plan by taking Orientation, while allowing them to enroll as a full-time student with at least 12 credit hours.

- Academic Problem: Low Success rates in learning support courses

Students struggle to succeed in traditional Learning Support courses. During the 2013-2014 academic year, enrollment in READ 0810 (Learning Support Reading) was 177 students and 105 (59.3%) received a final grade of A, B, or C. Similarly, enrollment in ENGL 0810 (Learning Support Writing) was 340 students and 218 (64.1%) received a final grade of A, B, or C. MATH 0810 (Learning Support Math I) is the highest enrollment Learning Support class but has the lowest success rate. There were 873 students enrolled in MATH 0810 but only 369 (42.3%) received a grade of A, B, or C. The content and skills learned in ORN 1010 benefit all students but is particularly beneficial to Learning Support students who are working hard to overcome academic deficiencies. By ensuring that students in our pilot register for ORN 1010 during the first session of their first semester, we hope to improve their success rate in Learning Support courses, retain them through the next semester, and ultimately see them graduate with a credential or degree. Again, the content taught in ORN 1010 will be intentionally incorporated in the other courses in this learning community, helping students to apply and use what they learned to help them succeed.

- Academic Problem: Ensuring students who need ORN 1010 the most will enroll in ORN 1010

Dyersburg State enrolled 1051 first-time freshmen during the 2013-2014 academic year. Even if we assume that all 536 students enrolled in Orientation were first-time freshmen, roughly half of our students are not enrolling in Orientation during the critical first year. A growing body of outside data as well as institutional data shows that Orientation helps retain students and promotes student success. We need to find an effective way to ensure that our first-year students enroll in Orientation so that they begin their academic career with a strong foundation. Block enrolling freshmen who enter college with Learning Support deficiencies in all three content areas into Orientation can ensure that students who are at the greatest risk of failing are taking the course as first-year students, in their first semester, when they need it most.

Explain how the revitalized course will enhance student learning and improve student success: The paired courses will be designed in a way where course content is complementary. Therefore, taking the paired courses together will create a more cohesive learning environment than for students taking courses separately. For example, Orientation covers topics like note-taking, self-efficacy, and utilizing tutoring services. Pairing Orientation with MATH 0810 will give students an opportunity to practice the beneficial concepts they learn in Orientation in another course and apply this knowledge directly to a course where data shows that they struggle the most. Among students who need all three learning support competencies, we expect to see higher completion rates in MATH 0810 paired with Orientation than as a stand-alone course.
Best practices, research and a DSCC pilot conducted on campus during Fall 2014 show that reading students are helped most when they can practice reading skills when it is followed by a connected writing assignment. For example, when reading students learn about looking for the main ideas in a text they are better able to identify main ideas when then are also asked to write a paragraph with a topic sentence that establishes the main idea. In writing class, they will put into practice key concepts they are learning in reading class. The concepts taught in ORN 1010 the first 7 ½ weeks will not be left behind and forgotten. When students turn their attention to reading and writing, specific readings and assignments will connect to content from ORN 1010, thereby providing additional support and techniques when working through these challenging courses. By pairing Learning Support reading and writing and continuing to infuse ORN 1010 concepts, we expect to see higher success rates in both ENGL 0810 and READ 0810 than we see in stand-alone courses. We also expect that students completing the pilot will score higher on posttests in both reading and writing than those in a stand-alone course.

Pilot Phase and objectives:

Among entering freshmen with Learning Support requirements in all three areas (reading, writing and math), we will:

Objective 1 - Identify and register 20 new, incoming freshmen in a block of courses at the Dyersburg campus location pairing ORN 1010 with MATH 0810 and READ 0810 with ENGL 0810. This learning community is a desirable scheduling alternative to the full-semester traditional offering.

Objective 2 - Provide interdisciplinary support and provide a solid foundation for the students to obtain success in the other courses in this learning community through the revitalized ORN 1010 course.

  o  Goal 2.1: Teach MATH 0810 such that 75% of the students are able to complete all 5 Learning Support Math competencies and earn an overall course grade of a C or better.

  o  Goal 2.2: Teach ENGL 0810 and READ 0810 in a complementary manner enabling at least 75% of students to master all Learning Support Writing and Reading competencies as well as complete the course with a final course grade of C or better.

Objective 3 – Track the academic progress of the students enrolled in the pilot in future semesters in terms of average GPA, retention, graduation, and how they did in subsequent English and math courses needed to complete their academic plans as compared to those who did not register for the pilot.

Project Steps:

1. Design a course schedule that allows for the required instructional minutes
2. Establish parts of term so that admissions and records can build a schedule
3. Share altered parts of term information with Financial Aid
4. Identify and train teachers for the courses taught in the pilot
5. Notify advisors and advising centers on campus of the pilot so that they are aware of how to properly enroll students
6. Identify and recruit 20 freshman with Learning Support requirements in all three subject areas
7. Examine learning objectives in Orientation and Learning Support Math. Identify where student learning objectives in Orientation can be applied to Learning Support Math. These objectives may include topics such as:

  o  Time use
8. Design weekly goal sheet for ORN 1010, MATH 0810, READ 0810, and ENGL 0810
9. Design a weekly course content overview, detailing how it will dovetail with MATH 0810
10. Examine learning objectives in Orientation, Learning Support Reading, and Learning Support Writing. Identify complementary learning objectives where course content will augment the paired course as well as continue to emphasize key concepts from ORN 1010.
11. Develop common assignments, including assignments that connect to ORN 1010 content
12. Develop an end-of-course survey to be given at the end of each 7 ½ week session
13. Collect formative assessment data throughout the semester
14. Collect summative assessment data
15. Analyze assessment data to see if the outcomes for the pilot were met
16. Write final report describing assessment data and plans for modification in subsequent offerings
17. Track pilot students in subsequent semesters

Formative Evaluation Methods:

Objective 1: Identify and register 20 new, incoming freshmen in a block of courses at the Dyersburg campus location pairing ORN 1010 with MATH 0810 and READ 0810 with ENGL 0810. The revitalized course will provide interdisciplinary support and a desirable scheduling alternative to the full-semester traditional offering.

• ARGOS reports will be run at regular intervals from March 2015 through August 15, 2015 to identify incoming freshmen with Learning Support requirements in all three areas. We will send out mailers inviting students to register for the block classes. We will train advisors and the Advising Center on how to properly assist students in registering for the block courses.

• An end-of-course survey given at the end of each 7 ½ week session will provide feedback on how well the students were served by the content in the course pairings and the scheduling option.

Objective 2, Goal 2.1: Teach MATH 0810 such that 75% of the students are able to complete all 5 Learning Support Math competencies and earn an overall course grade of a C or better.

• For MATH 0810, there are five unit tests which each correspond to a Learning Support Math competency described in the TBR A-100 Guidelines. To successfully complete a Learning Support Math competency, students must receive a minimum score of 75% on the corresponding unit pre-test or post-test.
• To pass the MATH 0810 course, students must finish all five competencies during the semester in which they enroll in MATH 0810. For students who completed all five competencies, the overall course grade is a weighted average of homework (30%), module quizzes (30%), unit tests (30%) and class participation (10%).

• ARGOS reports are run at the end of each semester detailing end of course grades and success rates for pilot and non-pilot sections of MATH 0810.

• Some students may not be able to complete all five math competencies during the compressed 7 1/2 week schedule. Students may continue to utilize free tutoring in the math lab and tutoring centers to complete any remaining competencies by the end of the 16 week semester.

Objective 2, Goal 2.2: Teach ENGL 0810 and READ 0810 in a complementary manner enabling at least 75% of students to master all Learning Support Writing and Reading competencies as well as complete the course with a final course grade of C or better.

• For ENGL 0810, each essay that the students write is a summative evaluation in regard to their writing competencies. They will have to earn a holistic score of 4, 5, or 6 to achieve mastery of Writing Competencies 1 and 2. The grading rubric is based on a six-point scale; the rubric is used by the English Department to assess all essays written in both ENGL 0810 and ENGL 1010.

• To pass the ENGL 0810 course, students must earn a holistic score of 4 or higher on a 6-point scale on one of Mastery Essays written. For students who achieve a score of 4 or higher on a Mastery Essay, the overall course grade is a weighted average of all course work (50%) and passing (score of 4 or higher) Mastery Essay grade (50%).

• For READ 0810, the students will have a posttest that will assess their reading level. Students must be reading at 11.5 grade level or higher to achieve mastery of Reading Competencies 1 and 2.

• To pass the READ 0810 course, students achieve a score on the posttest that demonstrates they are reading at 11.5 grade level or higher. For students who completed both competencies, the overall course grade is a weighted average of homework (30%), module quizzes (30%), unit tests (30%) and class participation (10%).

• ARGOS reports are run at the end of each semester detailing end of course grades and success rates for pilot and non-pilot sections of ENGL 0810 and READ 0810.

Objective 3 – Track the academic progress of the students enrolled in the pilot in future semesters in terms of average GPA, retention, graduation, and how they did in subsequent English and math courses needed to complete their academic plans as compared to those who did not register for the pilot.

• ARGOS reports will be developed that track the students in the revitalized course as they progress toward graduation. ARGOS reports will also be written to give information on the cohort of new freshman students entering Fall 2015 who need to finish Learning Support competencies in all three areas to provide comparison data.

Who is required to take the course?

In the past, all incoming freshman were advised to take Orientation during the first year. With the addition of the 60 ÷ 3 plan, Dyersburg State Community College added ORN 1010 to all degree plans and it is now a required, college-level course for all students who graduate using the 2015-2016 academic catalog or subsequent catalogs. For the 2013-2014 academic year, Dyersburg State enrolled 1051 new freshman. With Tennessee Promise scholarship bringing new high school graduates into community colleges, we expect at least 1100 students will be required to take Orientation during the 2015-2016 academic year.

Collaborative Submission:
No, the redesign is not part of collaboration with other institutions. However, we would be happy to share our findings with others.
2015-2016 TBR Course Revitalization Project Summary

Course: SPCH 1010
Other:
Past Student Headcount: 650      ABC%: 70

Description:

SPCH 1010-Fundamentals of Speech Communication (hereafter referred to as SPCH 1010) will be revitalized by using the pedagogical practice of flipping the classroom or inverted teaching. When a classroom is flipped, instructors are using active learning, student engagement, and hybrid course design to increase student engagement. The shift in how classroom time is spent is drastically different from a traditional SPCH 1010 classroom. Traditionally SPCH 1010 has been taught from an instructor centered pedagogy with lecture being the cornerstone of the classroom and skills practices limited to graded speaking assignments for students.

Within the revitalized flipped SPCH 1010 classroom, the focus will be on learning to communicate by communicating through the process of freeing up class time once devoted to lectures. The definition of a flipped classroom is “the process of replacing traditional lectures with more student-centered learning strategies, such as active learning, discussions, problem-based learning, other forms of group work and peer instruction” (Cornell University Center for Teaching Excellence, 2011). The Flipped classroom has two major components that must be considered in designing a course: Before Class and During Class.

Before Class:

• Instructors will assign readings, videos, and short-recorded discussions for students to use in order to achieve a foundational understanding of assigned material.

• Instructors will assign an out of class assignment in order for the student to evaluate and demonstrate their understanding of the material.

Research suggests that students who read the text and work with the material before class learn more, retain more, and have a better overall understanding of the material (Boelkins & Ratliff, 2000). Instructors will be integrating technology into each course in order to achieve the Before Class component. Examples of technology to be used include:

• Soft Chalk

• Videos

• Online Journals

• Blogs

• Webinars

• Online Discussions

During Class:

Years of research clearly demonstrate that student engagement is a core component that enables students to successfully complete postsecondary educational courses (Astin, 1993; Kuh, Kinzie, Schuh, & Whitt, 2005; Pascarella & Terenzini, 1991, 2005). Leading research in student engagement has identified three areas of student engagement: Academic Challenge, Student-Faculty interaction, and Active-Collaborative learning (Kuh, 2003). The revitalized SPCH 1010 flipped classroom will focus and address all three of these areas through the following types of activities:
• Group projects  
• Micro speeches  
• Games  
• Problem Based Learning

Another area of concern within the traditional SPCH 1010 course is the fear of public speaking. Public speaking is the most commonly held fear in America. It is important for the flipped classroom to incorporate early assessment and feedback in order to reduce student anxiety. Through the in-class active learning assignments students will begin to practice speaking skills in smaller less intimidating formats. While these activities will be addressed in the Before and During class stages of the flipped classroom, it is also necessary to address the order in which material is covered in class.

In addition to the flipped classroom design the course revitalization of SPCH 1010 will include the introduction of Module Learning. Currently the traditional SPCH 1010 classroom uses a textbook that has the speaking skills towards the end of the semester. The revitalized course will use a Four-Module course structure to address student learning, anxiety, and comfort with the material. Addressing some of the fear of the unknown and allowing students time to practice speaking through Micro speeches and other in class activities will reduce fear, anxiety, and the dreaded speech day.

Academic Problem:

The main objective of the revitalization of SPCH 1010 is to address the issue of non-completion of learners. The DFW (D, F, and Withdraw) rate is currently 27% in SPCH 1010. Students drop courses for a variety of reasons, but in a speech class many of those who drop are not comfortable with speaking in front of a classroom and have not been engaged in the learning process. The goal of this revitalization is to have students learn to communicate by communicating and interacting in the classroom. The minimization of the traditional lecture will allow for more engaging and collaborative learning activities. Furthermore, students will work on the concepts of the course before coming to class and work in small groups during class to enhance their retention of the concepts. These changes are aimed at increasing the retention of students and increasing completion rates in all SPCH 1010 classes.

Explain how the revitalized course will enhance student learning and improve student success: The flipped SPCH 1010 course will engage students using the three areas identified by Kuh (2003), Academic Challenge, Student-Instructor Interaction, and Active-Collaborative Learning. The removal of time devoted to lecture allows students to learn and practice the skill of speaking thus reducing stress and anxiety as longer graded speeches approach.

If the students complete the Public Speaking Module early, they will feel more confident in their ability to complete the course. Also, through active learning students will practice speaking and interacting with each other as a way to reduce stress of giving a speech and increase necessary speaking skills to successfully complete the course.

Research suggests that students who prepare for class before the instructor introduces the concepts understand and retain significantly more of the information. Each instructor for SPCH 1010 will require students to read the text, watch videos, complete soft chalks, take online quizzes, answer discussion questions, and/or write online journals before class. These assignments comprise at least 15 percent of the overall grade. This will be a motivating factor for students to cover and learn material outside of the classroom.

Pilot Phase and objectives:

The pilot phase will be implemented and completed in Fall 2015. All full-time faculty teaching SPCH 1010 will use a flipped classroom model, requiring students to complete graded assignments about the material before it is
introduced in class. Also faculty will be required to teach using the modular format in all traditional face-to-face SPCH 1010 classes. During this pilot phase different types of Before Class and During Class activities will be tested. The objective will be to reduce the DFW rate of students in those classes. If a significant improvement is made, the project will begin full implementation to include a substantial training and mentoring program for adjunct faculty members. The modules and example assignments will be provided to adjunct faculty members within the course D2L sites, training sessions, and faculty mentoring program.

**Project Steps:**

I. The development team will create modules that emphasize public speaking, basic communication, interpersonal communication, and group communication skills.
   a. Each module will have milestones such as the first major speech presented by week four and micro speaking opportunities.
   b. Modules will be developed in a logical order to help the students learn the concepts of communication effectively.
   c. Within each module early assessments will be developed to allow students timely feedback in order to track their progress.

II. The development team will create Before Class videos, lectures, and other supplemental materials for students to use within each module.
   a. Each module will have a variety of online assignments and assessments so students will have a basic understanding of the course materials before it is discussed in class
   b. Create and make available video resources that are dynamic and address the chapter material for students to use to supplement out of class reading.

III. The development team will examine and create various assignments, journals, discussions, and quizzes for each module. The assignments will be designed to make use of all available means of delivery and technology for students.
   a. In class activities will be developed and posted to the course D2L sites for instructors to choose from and utilize in class.
   b. Online activities such as turning in outlines in the Learning Management System (LMS) or completing activities such as Soft Chalk will be recommended.

IV. The development team will work with the campus IT department for the implementation and incorporation of all created materials into all SPCH 1010 D2L sites.
   a. The team will address any technical issues or editing issues that may arise during this process.
   b. The team will also examine and create clear implementation plans for the incorporation of various technological components to the individual D2L sites.

V. The development team will then include all full-time faculty who teach SPCH 1010 into the pilot phase.
   a. Full-time faculty will implement and test various supplemental and technological resources.
   b. Full-time faculty will implement and test various Active Learning strategies in the classroom.
   c. Full-time faculty will keep an active data entry log evaluating the technique, technology, and student reaction to each Active Learning strategy and assignment for every section of SPCH 1010.
VI. The development team after a successful pilot phase will begin the training and department wide implementation of the SPCH 1010 redesign.

Formative Evaluation Methods:

In order to evaluate overall student learning and engagement in the piloted Flipped classrooms, data will be collected as follows:

- The baseline data of DFW rates of the SPCH 1010 classes will be used for comparison with the DFW rate for the piloted SPCH 1010 classes in fall 2015. The baseline data will be obtained by using the three-year average of the DFW rates in 2012-2013, 2013-2014, and 2014-2015.
- The DFW rates of the pilot SPCH 1010 classes will also be used to compare with the DFW rates of the traditionally taught SPCH 1010 classes in fall 2015.
- Surveys will be developed and administered to students to collect feedback on and perceptions of the revitalized course in comparison with the traditional course.
- Surveys will be developed and administered to participating faculty to collect feedback and perceptions of changes and effectiveness of the revitalized course.
- Information will be collected, aggregated, and analyzed from the results of the Individual Development of Education Assessment (IDEA) instructor evaluation surveys completed by students in the revitalized SPCH 1010 classes for fall 2015.

Who is required to take the course?

The course is one of three students may take to fulfill their Oral Communication Core requirement. Approximately 70 percent of our students in the AA/AS program take SPCH 1010.

Collaborative Submission:

No.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: CRMJ 1010
Past Student Headcount: 650       ABC%: 55.2

Description:

The revitalized CRMJ 1010 will use the flipped classroom format, which involves a form of blended learning where students learn content online by watching video lectures, usually at home, and homework is done in class so that students are afforded more one-on-one time to facilitate learning. The revitalized course will use CourseConnect by Pearson. CourseConnect is designed to be a self-directed, personalized instructional program with self-contained learning modules that are filled with rich media, graphics, interactivities, discussion questions, and assessment banks for quizzes, mid-terms, finals, and pre- and post-tests. This product and the one-on-one instructional time will foster and encourage student engagement, as well as improve student-teacher relationships, while allowing for prescriptive instruction for struggling students, which are currently lacking in the traditional course format. In addition, the course design will rely heavily on mobilization, real life experiences, guest speakers and writing exercises such as reflective narratives of the learning outcomes.

In order to achieve the increased student engagement, retention and successful student outcomes, the course will differ from the traditional courses in that it will allow more opportunities for students to become engaged in the course content inside and outside of class. Lectures will be recorded using Tegrity and other video recording options. This will allow students to have continual access to the lectures. The recordings will utilize ‘lesson checks’ during the recorded lectures. Students will be given 5 short questions to check their learning throughout the course lectures.

We will meet on predetermined dates during the semester. There will be also ‘lab hours’ associated with this revitalization, which will require student participation in co-curricular activities outside of class. The lab hours will also be predetermined and will take place twice a month. These events will include, but are not limited to: visits and tours of local correctional facilities, criminal courts, regional medical examiner’s office, crime victims’ center, juvenile court, and civil courts. Students will also have the opportunity to participate in a mock trial presentation that will be open to the college and public as a culminating event for this course. This event will allow the students to experience the three components of criminal justice system.

Another component of this revitalized course will include students compiling a Criminal Justice Learning Outcome Portfolio. This will allow the students the opportunity reflect on their learning and the competencies of the criminal justice system in which they were taught. This portfolio can be used to build on their learning in other classes, as well as allow the students to compile a professional portfolio for future employment. Students will also enjoy the information from guest speakers in the criminal justice field to enhance their learning and provide one-on-one information to the students.

It is our hope that by allowing the student to become more engaged during the lecture and co-curricular activities, this will increase the pass rate of students who take CRMJ 1010 in the future.

Academic Problem:

The revitalized course will address student engagement through the use of Pearson’s CourseConnect, a virtual product that allows students to access course content in different formats and provide support through teacher-student discussion and explanation. It will also address retaining the student learners based on their engagement in the various projects in which their participation and attendance are directly dependent. This will be done through multiple types of interactions that go beyond the traditional classroom environment.
This revitalized course will also address the need for experiential learning. Students will be introduced to various criminal justice agencies in the way of visits, tours and one-on-one discussions with professionals in the field. When students are able to see firsthand what takes place in some of the criminal justice agencies, they will have gained a better appreciation and understanding of how these agencies operate and what it will take in order for them to become employed by one of these agencies.

**Explain how the revitalized course will enhance student learning and improve student success:** Student learning will be enhanced when we reach the students where they are in their lives with the use of technology to improve student involvement. Baseline student information will be determined during an initial survey and pre-test. The new instructional design will afford us the opportunity to assess student learning through the use of student exit slips on our face-to-face instructional meetings. Exit slips will ask students to write three things that they learned during class, as well as three things that they are having trouble understanding.

Currently, the data has determined that collectively we are not reaching the students in the traditional design, nor in the fully online learning environment; although, this data is limited. It is our belief that following the best practices of andragogy, we will be able to transform the students from peripheral learners to fully engaged learners by the interactive components: CourseraConnect, co-curricular activities, a reflective learning outcome portfolio and the instructional support for self-paced learning.

It has been proven that the more adult student learners (ASL) are involved in what they learn the more committed they are to their learning, whether it is formal or informal learning. Therefore, they are more likely to attend class regularly, successfully complete the semester, return the following semester and ultimately graduate. Based on our design and the level of student input in their learning, students will directly participate in the achievement and building of their grades through course interaction.

**Pilot Phase and objectives:**

The pilot phase will consist of a hybrid course utilizing “lab hours” as a means of exposing students to real life situations, events and opportunities not otherwise afforded in a traditional course. The pilot will still expect high levels of quality student work, attendance, and participation, yet will allow students to reach these levels in a different, hopefully more attainable method. The pilot will rely equally on the benefits of the traditional and distance learning instructional delivery methods, the human element and self-paced learning respectively.

**Objectives of this pilot:**

1. Increase the percentage (90%) of students who pass the course with a “C” or better.
2. Expose students to the world of work in criminal justice.
3. Increase student retention in this course by allowing students to engage in self-directed learning (SDL).
4. Decrease the percentage (10% or less) of students who do not successfully pass the course.
5. Increase student engagement in the course, moving them from peripheral learners to fully engaged learners.
6. Evaluate whether the new instructional design increases student learning compared to the current instructional delivery model.
7. Provide opportunities for first-generation, at-risk, traditional and non-traditional adult learners to interact with current professional and build networking sources and opportunities.
8. Support experiential learning through the creation of a portfolio.
9. Strengthen the adult learner’s critical thinking skills.
Project Steps:

A. Prior to implementation:
2. Create CRMJ 1010 Introduction to Criminal Justice as a hybrid course D2L/PAWS.
3. Create the lecture transcripts for all lectures.
4. Record all lectures (visual and audio) using Tegrity.
5. Videotape interviews with guest speakers for mobilization.
6. Test online components via various technological devices, iPads, Tablets, Laptops, Smartphones, and etc.
7. Set dates for face-to-face instruction and real world learning experiences (field trips).
8. Obtain approval on all guest speakers and off campus activities.
10. Check out class set of mobile devices.

B. Marketing and Student Selection:
11. Market and recruit students for the course.
12. Once students have registered, required them to complete the Critical Incident Questionnaire (CIQ), which is a survey used to give students a voice in the classroom design. (See example in Supporting Document.)
13. Analyze the data from the CIQs, adjust the course design, if necessary.

C. Implementation:
14. Welcome and introduce the new course design to the class, including the expectations of this newly designed course.
15. Obtain access code prior to the first day of class in order to be able to distribute accordingly.
16. Pilot/course starts
17. Ongoing collection of data for evaluation
18. Collect mid-term grades from other CRMJ 1010 sessions and the delivery method for comparison
19. Prepare a mid-term report

D. Conclusion/Post-Pilot:
20. Evaluate the course design outcome using an electronic portfolio
21. Analyze the data
22. Prepare a Final Report to determine if the design was effective and efficient.
23. Submit Final Report

Formative Evaluation Methods:
The summative evaluation method will focus on the outcomes of the pilot. We will use a goals-based evaluation that consists of objectively-set targets. Therefore, we will examine the consequences of the project’s implementation. In other words, we will look at how the pilot’s hybrid design effects change in the students’ success rate. A post evaluation/assessment tool that is a part of the Pearson’s Learning Modules will be utilized to ascertain how the students perceived the course format and delivery.

In tracking the progress throughout the semester, we will be better able to determine why some students are successful or not. We will also observe the students who improved with the help of the early alert intervention notices. The information from these assessments will allow us to measure the pilot course’s effectiveness (student success) and opportunities for improvement (student failure). These methods will take the form of qualitative and quantitative data collection.

Other data sources will be to require all students to complete the Student Learning Outcome Exam (SLO) and the Student Evaluation of Teaching (SET). Using these sources along with other evaluative tools will permit us to compare and analyze data for reliability and validity.

Who is required to take the course?

Students who have declared majors in Criminal Justice (any concentration) and Biotechnology Technician, Forensic Science Concentration are required to take CRMJ 1010.

Collaborative Submission:

No, this course is not part of any other collaborative with another submission.
Course: Other
Other: PHYS 2110
Past Student Headcount:349      ABC%: 48

Description:

The revitalized course will take a student-centered interactive philosophy of teaching physics. The lecture and lab courses, currently separate courses, will be fully integrated. Formative assessments will be embedded in pre-lecture assignments and in-class activities. Class meetings will routinely include student discussion of topics. Students will regularly work in small groups during class meetings to solve problems while instructors provide support. Homework assignments will be administered online and will provide immediate feedback to students about their performance. Short, comprehensive quizzes will be administered regularly to encourage students to periodically review early topics.

Currently, the traditional course is centered on a lecture presentation of the material. Students are expected to read the textbook in parallel to the lectures. Homework assignments are made, but are typically not collected or included as part of the course grade. Class meetings consist of the instructor delivering a lecture and presenting demonstrations. The lecture course typically does not include any formative assessments to help students monitor their own learning. High stakes exams are given a few times during the semester. The lab component of the course is a different course that students enroll in separately. Although attempts are made to maintain a link between the lecture and lab courses, they are often quite disconnected. This instructor-centered approach encourages memorization (rather than reasoning) and short-term information retention (rather than enduring understandings).

In the revitalized course, pre-lecture assignments will be made to encourage students to prepare for class meetings. These pre-lecture assignments will include readings of the relevant materials from the textbook or a video presentation. For example, activities from the SmartPhysics (Chan, Stelzer & Gladding, 2010) system may be assigned. These include high quality short multimedia videos of physics topics that can track and document student participation also. We do not plan to create our own customized videos at this time. Most importantly, the pre-lecture assignments will include formative online “Checkpoint” assessments that will let the students, and instructors, know what material is well understood and what topics need additional attention. A Just-In-Time (Crouch & Mazur, 2001) question will be included where students may ask specific questions or request additional in-class reviews of specific topics. Instructors will be able to review student submissions before class meetings.

During class, instructors will provide short (10-15 minute) mini-lectures to review and clarify material. Low-stakes formative assessments will be administered, including both clicker questions and small whiteboard questions. Clicker questions are multiple choice, primarily conceptual questions that students respond to electronically. The instructor can then respond to the distribution of answers appropriately. Small whiteboard questions are open-ended questions that students respond to on a 1’x1.5’ personal whiteboard. The Physics Department has a set of 80 whiteboards that will be used. Both types of questions will be employed using a Peer Instruction approach. First, each student will respond to a question. The distribution of responses will be immediately generated electronically, and the instructor may share the distribution with the students and give further instructions if desired. Then the students will discuss their reasoning with their nearest neighbor and submit a reconsidered response. The instructor will then use the distribution of responses to lead a whole class discussion about correct and incorrect reasoning about the question. This sequence encourages students to practice making and evaluating explanations and emphasizes reasoning over memorizing correct answers.

Clickers will also be used to track attendance. Excessive absenteeism will be reported to the University’s Early Intervention System (EIS).
Additionally, class meetings will include integrated laboratory and small group problem solving activities. Currently, labs are a separate course from the lecture course and there is no recitation section. Integrating the labs will allow the instructor to better coordinate hands-on experiences with the presentation of course material. Students will observe and experience physical phenomena to aid their learning of the course material. Long lab activities will be broken into shorter digestible chunks to maintain student attention and better emphasize important details of the phenomena as well as experimentation skills. Instead of meeting 3 1-hr lectures and 1 3-hour lab, the revitalized course will meet for 2 hours 3 days per week.

Students will also get in-class hands-on experience with solving problems. Groups of 3 or 4 students will solve problems during class under the supervision of the course instructors. Groups will be asked to present part or all of their solution to the whole class. These activities will encourage students to study a few problems in detail. A deep and detailed understanding of these in-class problems will be a resource for the students when solving homework and exam problems. Additionally, instructors can highlight advantages and disadvantages of different correct solution approaches, emphasizing that there is almost always more than one correct way to solve a problem. TAs will be present to provide individualized support for student groups.

Online homework assignments will be included as part of the course grade. Online homework systems provide instant correctness feedback to the student and can sometimes offered suggestions about common mistakes made by the students which can be addressed by the instructor.

Short in-class quizzes (approximately 30 minutes) will be administered every two weeks. Frequent testing aids learning (Carrier & Pashler, 1992) and motivates students to stay current with course material. Each of these closed-book quizzes will be comprehensive in nature (as opposed to only including questions about a narrow set of topics) to encourage students to review material discussed early in the course. Additionally, each exam will correspond to a small fraction of the total course grade, lowering the stakes for these quizzes. Currently, most instructors give a few high-stakes hour-long exams during the semester.

To support instructors to teach in this new format, and to encourage consistency across sections of the course, an instructor toolkit will be developed. The toolkit will include a standardized syllabus, a collection of clicker and small whiteboard questions, a test bank, animations, videos, descriptions of available demonstrations, outlines for each lecture, an instructor’s guide for each lab, etc. The toolkit will be made available to all instructors of the course and archived each term as instructors make improvements.

**Academic Problem:**

High DFW Rates - Since Fall 2007, the average failure-withdrawal (DFW) rate for PHYS 2110 (excluding summer) is 48%. This has resulted in a high repetition rate, a low retention rate and an increased time to graduation. A wealth of education research has demonstrated that courses employing student-centered, interactive approaches achieve better learning outcomes than traditional lecture approaches (Hake, 1998). We believe that making class meetings more student-centered and interactive will increase passing rates by (a) helping students engage with the course material in meaningful ways, (b) providing students with timely feedback about their understanding of the material, and (c) encouraging students to develop productive learning practices.

Lack of Student Engagement - Students often come to class unprepared, without having completed reading assignment or having reviewed their notes from the previous class. Many students attend class expecting merely to listen to the professor and copy notes without critically evaluating the physics ideas and problems. Few students ask questions during class and few attend office hours. Employing student-centered, interactive strategies both before and during class will encourage greater student participation. Formative assessments will be used in pre-lecture assignments and in-class questions to encourage student participation and engagement.

Difficulties Using Math in a Physics Setting - Problem-solving is at the heart of the PHYS 2110 course, but many students have difficulty applying the math they learned in their math classes to physics problems. In particular,
students often have trouble (a) solving symbolic expressions (i.e. no numbers plugged in) for an unknown variable and (b) employing geometric or trigonometric reasoning to find relationships between physical quantities. Although these topics are taught in the formal math prerequisite courses, we find that many students struggle with these math skills in the context of physics problems. We will create assignments that review these skills and provide some remediation for students with insufficient math skills.

Furthermore, most of the physics problems are word problems, where students must identify the equations that express the physical relationships relevant to the problem situation. In their prerequisite math courses, equations to solve for are typically explicitly given in the problem statement. In-class small-group problem solving activities will be used to help students practice setting up a physics problem (i.e. identify the relevant relationships) before “doing the math”.

Most of the math problems that the students have experience solving include abstract, dimensionless numbers. In contrast, physics problems always include quantities with dimensions/units. Making sense of and using equations that include physical quantities will be emphasized during in-class small-group problem solving activities.

Inexperience With Learning Physics - It is common for a PHYS 2110 student to either be (a) taking physics for the first time or (b) to have had a high school physics teacher who does not have a degree in physics. We find that these students frequently do not know how to study physics productively. Most students do not study the example problems solved by the professor in class (as evidenced by quizzes containing the same problems) and, while doing homework, they rely too much on existing solutions rather than figuring out the solution on their own. We will address these issues by having students solve problems in small groups during class meetings. The course instructors and TAs will provide assistance to groups that are stuck and will explicitly discuss strategies for getting “unstuck”. Students will have increased familiarity with the example problems (having solved the problems themselves) and will develop strategies and tolerance for persisting with challenging problems without consulting a solution.

Insufficient Conceptual Understanding - PHYS 2110 students often view physics as a collection of facts and equations to memorize rather than as a coherent framework of concepts described by the equations. As a result, the students do not develop robust conceptual understandings. In the previous semester, we have administered the Force Concept Inventory (FCI, a standardized conceptual assessment of force and motion concepts) both before instruction (pre-test) and at the end of the semester, after instruction (post-test). Normalized gains, computed as (Post-Pre)/(100%-Pre), are a standard measure of student learning with this instrument. Post-test scores in Fall 2014 averaged 34% ± 2% with normalized gains of 18% ± 3%. In contrast, courses employing interactive teaching strategies typically achieve much higher normalized gains of 34%-62% (Hake, 1998).

Poor Integration/Synchronization of Lecture and Laboratory Activities - The development of physics ideas require careful observations and measurements of physical phenomena. Currently, the lab is a separate course from the lecture and students enroll for the two courses separately. The pacing of the different lecture sections, taught by different instructors, vary and may become poorly aligned with the schedule of lab activities. Lab activities are therefore, in practice, sequestered from lecture instruction. By integrating the lab and lecture courses, the timing of the lab activities can be controlled to support student learning of the course topics and reinforce the important connection between experiment and theory in doing science.

Difficulty Applying What Is Learned in Later Courses - PHYS 2110 is a gateway course in that it is a prerequisite of more advanced physics and engineering courses. Instructors complain that students have difficulty applying ideas from PHYS 2110 in these more advanced courses, rendering students unprepared to gain a deep understanding of advanced topics. Exit interviews with graduating physics majors have revealed that students do not feel that introductory courses encourage enduring understandings. Introductory courses should focus on developing deep understanding of core concepts and techniques that can be drawn upon and elaborated in later courses. Potter, et.
al. (2014) has shown that a student-centered interactive introductory physics curriculum can lead to higher GPA’s in advanced courses. Early success in the undergraduate program will lead to continued success throughout undergraduate study and a timely graduation.

**Explain how the revitalized course will enhance student learning and improve student success:** The revitalized PHYS 2110 course will emphasize the development of conceptual reasoning and problem solving skills, rather than superficial memorization and “plug and chug” problem solving. Students will practice making and evaluating explanations. They will have hands-on experiences in concert with a theoretical development of course topics. They will solve new problems in a supervised setting, where instructors are available to give timely feedback and advice. They will then practice solving physics problems at home with an online system that will give immediate correctness feedback.

The structural change of combining the lecture and laboratory courses into one integrated course will allow for greater control over the timing and sequencing of activities in supporting student learning. Complex labs with several activities will be broken up into smaller, more digestible chunks and the scheduled contact hours will be used more efficiently. Lab TA’s will be available to help supervise group problem solving activities, giving students better access to instructional resources. The classroom space for this course is the current laboratory room and has already been outfitted with a dual projector screen, microphone and speaker system, document camera and computer in order to use this space for lecture and small group activities.

Extensive formative assessment will aid students in monitoring their own learning in the course and allow instructors to identify early students who are at risk of failing. Instructors will meet with these students to discuss productive strategies for succeeding in the course. Students at risk of failing will be reported to the University’s Early Intervention System (EIS), which is designed to provide timely assistance to students before they fall too far behind in a class. When an alert is issued regarding a student, an email is sent to the student, the student’s college advisor, and the Center for Academic Retention and Enrichment Services. EIS is designed to provide assistance to struggling students before it is too late for them to succeed in the course.

Educational technology will allow for greater student engagement in the course and for more information for the instructor about student performance. Pre-lecture assignments and online checkpoints will help students be adequately prepared to learn material discussed in class. The online checkpoints will allow the instructor to get feedback about what questions students have and to address these questions during class. A classroom response system (Clickers) will allow the instructor to get real time feedback about the students’ understandings of the course material and adjust the classroom presentation accordingly. An online homework system will give real time feedback to the students’ about their problem solving performance and allow the instructor to track student performance in order identify students who need additional support.

**Pilot Phase and objectives:**

Two sections of the redesigned Calculus-Based Physics for Scientists and Engineers I (PHYS 2110) course will be piloted in fall 2015 with an anticipated enrollment of 80 students. The redesigned course will be structured for students to master specific learning objectives. Class meetings will include Socratic lecturing (50%) and the interactive activities described above (integrated labs, clicker and small whiteboard questions, and small group problem-solving) (50%). The pilot phase will:

A) Incorporate interactive engagement instructional strategies, including pre-lecture checkpoint assignments, clicker and small whiteboard questions with Peer Instruction, small group problem solving activities, and integrated labs. Instructors can adjust their presentations both prior to class and in real time during class to spend more time on concepts that students are having difficulty understanding.

B) Utilize online and in-class technologies that allow students to complete pre-lecture and post-lecture homework assignments, review prerequisite math skills, take low-stakes checkpoint formative assessments, and receive
prompt feedback on their learning progress. This technology will also allow instructors to monitor student progress and advise students who are at risk for failing the course.

C) Focus on the integration of the pre-lecture, in-class, and post-class homework activities.

D) Assess the achievement of the desired learning outcomes using various summative assessments that can be compared across the redesigned and traditional sections.

Most of the new elements of the redesigned course rely on active student participation. This can be uncomfortable for students who view their role as learners to be listening passively to a lecture presentation and completing homework assignments with the aid of solutions. Instructors will have to set clear expectations about how students should participate in the course, as well as explain the rationale for the interactive course elements. Students will be contacted before the beginning of the semester with a description of how the course will proceed, including a syllabus with details about the course structure and activities. Students who do not wish to participate in the pilot course will have an opportunity to switch to a traditionally taught section. Instructors will provide an orientation during the first few class meetings and after that, whenever students encounter a new type of activity. Instructors will be responsive to student concerns whenever possible. These actions will ensure that the the instructors’ expectations for all assignments and activities are clear from the beginning of the course.

We view the pilot phase to be a field test of our materials before a full implementation is made in spring 2016. Adjustments will certainly need to be made as activities and assignments are deployed with real students. The project team will make sure that issues with the online and in-class technologies, activities, and assignments are addressed before the redesign is implemented in all sections. We plan for two different instructors to teach the redesigned sections of the course. One of these instructors has more than seven years of experience using research-based, student-centered approaches throughout the physics curriculum. A third member of the project team will observe class meetings and take field notes about how students are responding to the class activities. The project team will meet weekly during the semester to make adjustments to materials already presented and to upcoming activities and assignments.

Formative assessments during the pilot phase will guide the refinement of the course materials as the semester unfolds. Summative assessments of students’ conceptual understanding, students’ problem-solving performance, course passing rate, and grade distributions will be used to determine if the desired learning outcomes have been achieved. Comparisons of these summative assessments will be made between the two redesigned sections (with different instructors, both on the project team) and two sections in the traditional format. Additionally, we will use anonymous surveys to solicit feedback from the students about their satisfaction with the course and for specific feedback about their experiences with the new course elements.

**Project Steps:**

A. Identify the key physics core concepts that will be covered in the course

B. Gather additional information about PHYS 2110 students and difficulties by conducting focus group interviews and administering a questionnaire in spring and summer 2015

C. Develop specific learning objectives for each concept

D. Determine essential content of course and time-on-task for each topic

E. Design assessments (both formative and summative) to test for achievement of learning objectives

F. Select appropriate textbook and online support software

G. Design pre-lecture, in-class and post-class homework assignments to achieve learning objectives
H. Prepare specific learning activities, including clicker & small whiteboard questions, small-group problems, and the instructor toolkit

I. Develop a common syllabus with matched pre-lecture and homework assignments

J. Teach two pilot sections of the redesigned PHYS 2110 in fall 2015

K. Evaluate student success rate and satisfaction with redesigned course (December 2015) and compare data from redesigned course to the traditionally taught course

L. Make modifications to pilot course based on student success rate, student input, and design team and instructor input (December 2015 & January 2016)

M. Fully implement the redesign in all course sections (Spring 2016)

Formative Evaluation Methods:

The effectiveness of the redesigned course will be measured through several summative assessments that are compared across the redesigned pilot sections and the traditionally structured sections. These summative assessments include:

- comparison of DFW rates across sections.
- common quiz/exam questions
- pre/post conceptual assessment (FCI)
- pre/post Views about Physics (CLASS)
- a post-instruction survey about student satisfaction with course elements

DFW Rates - Increasing the success rate of students in the PHYS 2110 is the primary goal of the project. We will compare the DFW rates of the redesigned pilot sections to the traditionally structured sections, as well as to several semesters of baseline data.

Common Quiz/Exam Questions - In order to measure student learning, similar exam questions will be administered to both the traditionally structured and redesigned pilot sections of the course. These common questions will be graded independently by the project team using a common rubric. We will administer a common, comprehensive final exam to compare student learning in the whole course.

Pre/Post Conceptual Assessment - The Force Concept Inventory (FCI) will be administered during the first and last weeks of the semester in both the traditionally structured and redesigned pilot sections. We will calculate and compare the average normalized gains: (Post-Pre)/(100%-Pre), for all sections. The FCI is a standard, well characterized instrument that measures students’ conceptual understanding of force and motion, concepts that are central and standard in a first semester physics course. FCI scores can also be used to compare the performance of our courses to courses at other institutions.

Pre/Post Views About Physics - An important yet often tacit goal of physics instruction is for students to develop more sophisticated understandings about the nature of physics knowledge and the nature of learning physics. The CLASS characterizes how well students understand the nature of physics and the nature of learning physics compared to expert physicists. The Colorado Learning Attitudes about Science Survey (CLASS) will be administered during the first and last weeks of the semester in both the traditionally structured and redesigned pilot sections. We will compare the raw gain in class score: (Post-Pre), across all sections of the course. Gains on the CLASS are typically negative during introductory physics courses; few courses achieve positive gains.
Survey of Student Satisfaction with Course Elements - In addition to achieving gains in student learning, it is also important that students view the course positively as intellectually engaging and supportive of their learning the course material. At the end of the semester, all students will be surveyed about their experiences with the various elements of the course. The surveys for the redesigned pilot sections and the traditionally structured sections will be as similar as possible for the purposes of comparison, but will include questions about specific course elements that will be different for the two different types of sections. The survey will include questions about time spent studying, strategies for studying, what resources were used and found to be most/least useful, and suggestions for making improvements to the course.

Long Term Effects - Additionally, we will look at more long term effects of the redesigned course by tracking the performance of students in subsequent courses and comparing across groups. First, we will look at the students performance in PHYS 2120, the next course in the introductory physics sequence. For engineering students, we will look at their performance in CIVL 2131 (Statics) and MECH 2332 (Dynamics). For physics majors, we will compare across groups their course grades in PHYS 3111 (Mechanics) and their overall physics GPA.

Faculty Perceptions - Faculty will be invited to observe the redesigned pilot sections. The project team will meet with these faculty and the faculty who regularly teach PHYS 2110 to gather feedback about the redesigned elements and get suggestions for further improvements.

Who is required to take the course?

All Engineering, Chemistry, and Physics majors are required to take this course. Computer science and math majors take this course to satisfy their requirement to take a physical science.

Enrollments for PHYS 2110 for the last three calendar years:

374 for Spring, Summer, Fall 2014
346 for Spring, Summer, Fall 2013
339 for Spring, Summer, Fall 2012

Collaborative Submission:

No.
Course: ENGL 1010
Other:
Past Student Headcount:3397    ABC%: 67
Description:

Students will enroll in both ENGL 1010 and SPAN 1010 concurrently. These courses will meet in consecutive timeslots in order to increase retention. Students in both courses will work in shared units but with different skill sets. Both courses will share the same research topics. Forty percent of the Spanish course currently devoted to communication and culture will cover the same topics as the ENGL 1010 course: intercultural professional communication, economic globalization, community service, and the benefits of multilingualism. The remaining sixty percent will cover the same language acquisition content that this course traditionally covers.

Students will produce four essays in ENGL 1010 and take four unit tests in SPAN 1010. Students in the ENGL 1010 course will learn to use source material as evidence in support of a thesis while upholding principles of academic integrity. They will write thesis-oriented expositions that demonstrate research skills—such as using and properly documenting paraphrased, summarized, and quoted materials from sources that support our modules—and foster a stronger shared context and connection with SPAN 1010.

There will also be two common projects that will be graded in both classes using different rubrics. Each of these projects will include a service component requiring students to collaborate with local international companies, and to produce a final project presenting an idea for an international business in our area.

Academic Problem:

SPAN1010 and ENGL1010 are required courses for students pursuing an Associate of Arts and a Bachelor of Arts in our system. Both courses have poor retention and achievement rates compared to other courses, and this ultimately impacts our institution’s graduation rate and our student’s success. By offering these courses concurrently and directly connecting their content with the fastest growing element in the local economy—international investment—we expect to increase retention and improve achievement.

By giving students the opportunity to submit the same assignment for both courses, we increase student involvement and multiply students’ chances of staying motivated and succeeding in each course, all while helping them develop the necessary skills to make connections between disciplines.

In the spring of 2014, Donna Seagle and Ken Goldsmith completed a program assessment for the Tennessee Board of Regents Office of Academic Affairs Research Grant titled, “Defining and Developing Capacity for Internationalization of Community Colleges: A Program Evaluation and Assessment.” They discovered that only 57 percent of students believe correctly that the world has become economically, environmentally, and politically interdependent (15). This disparity in understanding is explained with the following two statistics on students: 74.2 percent believe that Chattanooga State should provide students with opportunities to learn more about different cultures, but only 46.6 percent believe that Chattanooga State classes have expanded their knowledge of other cultures. Taking these courses concurrently will help our institution fulfill the goals established in our Global and Cultural Awareness ISLO, and will serve our students by closing the gap detected in the research. In addition, close association with the business committee through service learning will help Chattanooga State’s job placement rate, which will ultimately help our students succeed.

Explain how the revitalized course will enhance student learning and improve student success: Both ENGL 1010 and SPAN 1010 are required courses that will approach similar ISLOs and CSLOs from different perspectives. Students will work on four shared assignments and two research projects required for both courses. Success will have more chances to improve and succeed by having the opportunity to submit the same assignment in both
courses and to receive feedback from multiple perspectives. These courses also connect directly to the local job market through research assignments and service learning. Students will spend time with professionals with international backgrounds who will be able to provide invaluable insight on the impact of internationalization in their communities.

Pilot Phase and objectives:

As part of the pilot phase, the two instructors teaching the courses will design the common assignments, develop individual course rubrics, contact local business leaders, and collaborate with other departments in our institution in order to ensure that the course will help students enhance their global and cultural awareness as requested by the Tennessee Board of Regents.

The major project objective is to help students complete the required composition and foreign language requirements as quickly and effectively as possible. On top of that, we aim to directly connect these two liberal arts courses with the local job market. This project will allow students to work on common assignments that will count towards successfully completing both courses. From the outset, students taking part in this project will have a chance to complete courses worth a total of seven credits.

Project Steps:

a. Create course learning objectives and joint syllabi.

b. Design a common D2L shell that includes shared assignments such as the research project and the service learning project.

c. Contact students who are seeking an Associate of Arts degree or will be transferring to a Bachelor of Arts program to let them know about ENGL 1010 and SPAN 1010.

d. Collaborate with advisors and advertise the course to incoming freshman

e. Contact business leaders and arrange visits and joint educational activities.

f. Create a marketing campaign with the aid of the marketing department

g. Collaborate with Donna Seagle and Ken Goldsmith to remedy the findings in their course assessment research

h. Collaborate with Teletha McJunkin to redefine the Global and Cultural Awareness Institutional Learning Objective. This course will also serve as a pilot course for this project as well.

i. Collaborate with Gladys Pineda-Loher, head of the International Outreach Office, to connect with the international business committee and increase the profile of Chattanooga State in the international committee, which could increase enrollment.

Formative Evaluation Methods:

Before the course begins, the instructors will create rubrics for summative assessments, including joint assignments and individual course assignments, which will demonstrate mastery of the course learning outcomes for each course. Each course will have its own individual course assignments. In ENGL 1010, students will produce four pieces of research, each one of them based on each one of the thematic units that compose the course, and designed to demonstrate mastery of ENGL 1010 CSLO’s. SPAN 1010 will have four individual chapter tests which will cover the vocabulary and grammar necessary to demonstrate mastery of SPAN 1010 CSLO’s.

For both classes, students will complete two joint projects whose grades will contribute to the student’s final grade in each class. These projects will fulfill Chattanooga State’s ISLOs. The first of these projects, a midterm, will focus
on a piece of practical research on intercultural communication in a business setting. The final joint project will consist of designing a potential business project with an international component. Ultimately, the instructor will see a trajectory for each student’s course learning objectives and will also have tools to prove the student’s mastery of the institution’s ISLO’s.

Who is required to take the course?

Students who are seeking an Associate of Arts degree or who are in the Tennessee Transfer Pathway for a Bachelor of Arts are required to demonstrate proficiency in two semesters of English Composition and either one or two years of a foreign language.

Collaborative Submission:

N/A
2015-2016 TBR Course Revitalization Project Summary

Course: ENGL 1020
Other: ENGL 2110
Past Student Headcount: 2059    ABC%: 78

Description:

This redesigned on-ground Composition II course requires students to enroll concurrently in a section of American Literature to 1855. The redesigned course will allow for students to complete required Composition and Literature components of their degrees on an accelerated schedule, as Composition II is normally a prerequisite for American Literature to 1855. This innovation will allow students to move towards graduation more efficiently and increase College retention. Because this prerequisite has been waived, students will have a full semester’s instruction in each of these courses with reinforcement of course student learning outcomes across the board. The way this will be accomplished is that each course will run as a hybrid course. In each course, students will meet one day a week with their instructor in person, and the other half of instruction will take place in an online format.

Like the traditional course, students in this section of Composition II produce four essays, including the final exam, all of which focus on MLA-documented literary analysis and argumentation. This course differs from the traditional Composition II course because the readings will be those required for their concurrent section of American Literature, which will be discussed shortly. Like the traditional course, the first two essays require literary analysis using multiple primary sources. As the course progresses, students will write essays including both primary and secondary sources. Each essay requires at least one ungraded draft and incorporates a variety of instructor-guided peer review activities before students turn in a final graded draft. During peer review days, the instructor will circulate the classroom and provide individual feedback as requested. Between essays, students write a series of graded short discussions which allow them low-stakes opportunities to practice responding to the American literature required for both courses, to work on research skills, to attempt MLA documentation, etc. Unlike the traditional course, students do not write a timed second essay. Instead, they complete a short annotated bibliography assignment that prepares them for the Research Project they will complete in American Literature to 1855. This unit takes the time to focus on research skills, the evaluation of resources, and the incorporation of secondary sources into written analysis, thus reinforcing writing skills within the Literature course, and providing a better opportunity for success in both courses.

Like the traditional American Literature to 1855 course, students will discuss selections from American Literature’s beginning to about 1855. Though students will have read and discussed some of the literature in their Composition II course from analytical and argumentative writing viewpoints, they will read additional primary and secondary sources for their American Literature to 1855 course and receive lectures that provide historical context on these materials during this class time. Like the traditional course, students will take three exams, give an oral report, and write a research project. As mentioned above, unlike the traditional course, students will prepare for the research project by completing an Annotated Bibliography in their Composition II course. They will also complete a peer-review process for this research assignment. Furthermore, having reviewed some of the course material in two classes, students will be better prepared to take the exams scheduled in this course. Along these lines, the American Literature instructor will visit the Composition II course on several planned days, or vice-versa, including a library instruction day, to allow for team-taught cross-discipline opportunities within the course pairing.

Academic Problem:

The main academic problem this course pairing addresses is student inability to retain information and required skills as they continue to take new courses, thus impacting their overall success in successive courses. English
courses are meant to build on each other so that students are constantly improving their critical reading and writing abilities. This is difficult to accomplish, however, when students need significant review of prior materials in each new course. Spending additional time on certain materials for each course will allow students the opportunity to reflect on and retain the new information these courses introduce. Secondly, asking students to use skills generally associated with Composition II in American Literature, and vice versa, allows for students to understand the ways in which the information and skills they achieve in each course are relevant to other courses and will improve the overall retention of these skills through repeated use.

**Explain how the revitalized course will enhance student learning and improve student success:** As explained above, this course pairing allows for additional coverage of the material in both Composition II and American Literature to 1855. Furthermore, asking students to practice skills used in specific classes across the course pairing will result in better-retained information and expanded abilities in any skill set for each specific course. In addition, the conversion of the prerequisite to a corequisite will speed students to completion of their degree programs.

**Pilot Phase and objectives:**

The main objective of this project is to help students complete their required general education composition course requirements as quickly as possible. Waiving the prerequisite of Composition II for American Literature to 1855 and hybridizing these courses will allow for this to occur.

Spring 2014/Summer 2014 Nicodemi and Henderson will collaborate to synchronize and coordinate content for the ENGL 1020/ENGL 2110 linked courses. A collaboration will also occur with the registrar’s office to ensure appropriate registration restrictions are in place and with marketing to ensure that information about the linked courses is made available to students.

Fall 2014 The linked courses (ENGL 1020/ENGL2110) will be offered to students on a limited basis.

December 2014 The student success rate in the linked courses will be evaluated and compared to the control group of students taking the traditional ENGL 1020 and ENGL 2110 offering.

**Project Steps:**

1. Revise Composition II course to reflect American Literature readings.
2. Create Annotated Bibliography Assignment for Composition II course that prepares students for American Literature Research Assignment.
3. Create several co-taught assignments for these courses.
4. Design interconnected D2L shells for each course.
5. Contact students required to take Composition II courses to let them know about this opportunity.

**Formative Evaluation Methods:**

Final grades for the revitalized Composition II course and the paired American Literature course will be collected and compared to the traditional courses. Additionally, before the semester begins, the instructors will create a pre-test to give students in the first week of class. This test (which will include a writing sample) will assess each student’s ability to think and write critically about literature in general, as well as his or her prior knowledge of American Literature. These pre-tests will be assessed with a rubric that will also be used to assess the Final Research Project in American Literature, which will measure each student’s ability to think and write critically about American Literature. This touches on the course student learning outcomes for students in each course. Finally, all students will be asked to write a reflective essay evaluating their personal success in the course and linking it (if valid) to the specific course pairing.
Who is required to take the course?

Students who take this course are those required to take Composition II as well as a literature course in their required major. For example, any student who plans to use a Tennessee Transfer Pathway would be required to take these courses.

Collaborative Submission:

No.
2015-2016 TBR Course Revitalization Project Summary

Course: MATH 1130
Other:
Past Student Headcount: 654   ABC%: 70.9

Description:
The co-requisite delivery of MATH 1000 (Algebra Essentials) with MATH 1130 (College Algebra) will allow students enrolled at Roane State to complete MATH 1000 and MATH 1130 during the same semester. Course material for MATH 1000 and 1130 will be structured in such a way that that students can progress in a linear manner through the material in both courses in one semester rather than two, spending more time on areas that often cause the most student difficulty in MATH 1130.

Academic Problem:
Currently, a student who has completed Learning Support Mathematics must first complete MATH 1000 prior to enrolling in MATH 1130. This means that it often takes students four semesters to complete MATH 1130, a prerequisite class for many STEM and Business majors.

Explain how the revitalized course will enhance student learning and improve student success: By structuring this class to meet four days per week, and allowing for additional time to work on topics that cause students difficulties in subsequent classes (Finite, Basic Calculus, Precalculus, and Calculus), this co-requisite model for MATH 1000 and 1130 will help strengthen and reinforce the necessary mathematical skills for success in later classes.

Pilot Phase and objectives:
The pilot phase of this project will include one paired section in summer 2015 at the Oak Ridge campus. This phase will allow us the opportunity to work out any major issues implementing this model and to develop additional materials to be used in the broader pilot in the fall. The pilot will be expanded to a section each at Oak Ridge, Harriman, and Cumberland campuses in fall 2015. This project will allow us to determine how best to fully implement this model beginning in spring 2015.

Project Steps:
The revitalization team plans to complete the project through the following steps:

1. Develop the co-requisite curriculum. (Jan-Aug 2015)
2. Identify and train faculty participating in the pilot sections (Apr-Aug 2015)
3. Collaborate with administration to determine scheduling and number of pilot sections (Feb-Mar 2015)
4. Inform academic advisors of availability of co-requisite sections of MATH 1000/1130 prior to Fall Registration (Mar-Apr 2015)
6. Teach three sections of MATH 1130 combined with MATH 1000 in fall 2015
7. Use feedback from faculty teaching MATH 1000/1130 to determine additional areas of success.

Formative Evaluation Methods:
The summative evaluation metrics that will be used to evaluate the effectiveness of the expanded pilot of the co-requisite model of MATH 1130/MATH 1000 in achieving project objectives are similar to those above:
1. The % of students with ABC grades in the expanded pilot sections of MATH 1130 (those enrolled in the co-requisite course compared to those only enrolled in MATH 1130 and the annual ABC rate of 70.9% for the course)

2. The % of students with ABC grades in MATH 1000, compared to the annual ABC rate of 44.3% for MATH 1000 as it is currently taught

3. % of students enrolled in the co-remediation model of MATH 1000 who report that instruction in that course has helped them be successful in MATH 1130 (evaluated via a survey administered at the end of fall 2015)

Who is required to take the course?

Roane State offers 25 career/technical programs of study that lead to AAS, AFA, and AST degrees and 16 transfer programs (including Tennessee Transfer Pathways) that lead to AA or AS degrees. Many students are required to take MATH 1130, which is a prerequisite to MATH 1630, MATH 1830, and MATH 1730 (which is, in turn, a prerequisite for MATH 1910). In fall 2015, all students who score below 21 in math on the ACT will be required to enroll in MATH 1000. With this requirement in place, 330 students enrolled in MATH 1130 in 2014 would have been required to first successfully complete MATH 1000.

Collaborative Submission:

No.
2015-2016 TBR Course Revitalization Project Summary

Course: MATH 1530
Other:
Past Student Headcount: 1384  ABC%: 65.5

Description:

As traditionally offered, students with a math ACT score below 19 are required to enroll in Math Learning Support courses (MATH 0891/0892) which are prerequisites to all college-level math courses. These students spend at least one semester in these remedial courses. Hence, in order to graduate, students with remediation needs spend at least two semesters taking the coursework that is necessary to meet their general education math requirement. In the revitalized model, MATH 0530 will replace MATH 0891/0892 in fall 2015 and will be taught as a co-requisite to a credit-bearing course, MATH 1530 (Probability and Statistics). Thus, students will be able to complete their general education math requirement in a single semester, thereby increasing the likelihood of their continued motivation and persistence to completion.

Academic Problem:

With the move to the co-requisite model of math remediation, it will be necessary to ensure that MATH 0530 adequately addresses students’ needs in the college-level MATH 1530 course. These students often struggle with fractions and proportions, order of operations, the concepts of “less than” and “greater than,” percentages, and decimals. MATH 0530 will provide a foundation for the content covered in MATH 1530, as well as the opportunity for additional practice with the content.

Explain how the revitalized course will enhance student learning and improve student success: MATH 0530 will provide preparation for, as well as “just-in-time” assistance to students that will allow them to be successful in the credit-bearing MATH 1530 course. The co-requisite course for MATH 1530 will consist of two parts: providing supporting materials to ensure success in MATH 1530, and offering instruction to students to ensure successful completion of their remediation requirements.

Pilot Phase and objectives:

Phase one of the pilot phase began in fall 2014, with one section of the co-requisite model of MATH 1530 taught by the grant lead. Phase two of the pilot for the co-requisite model for math will commence in spring 2015 in two sections of MATH 1530, which will be taught at two campus locations. Students will enroll in a modified version of MATH 0891 designed to support success in MATH 1530. The overall objective is to ensure student success in MATH 1530. During this time, the project team will continue to develop the co-requisite curriculum and methods of assessment. The team will monitor the following aspects of the course: (a) enrollment, (b) progression towards success in completing the remedial competencies, and (c) progress towards success in completing MATH 1530. At the end of spring 2015, the project team will work with the Office of Institutional Effectiveness and Research to evaluate student success in these two sections (see formative evaluation methods below).

Project Steps:

This grant project begins with a second phase of a pilot in spring 2015, when two sections of the co-requisite MATH 1530 and MATH 0891 courses will be taught by members of the project team. The following activities will occur throughout the grant period:

1. With assistance from the Office of Institutional Effectiveness and Research (OIER), evaluate student attainment of competencies in phase one of the pilot to determine potential areas of improvement.

2. Teach two sections of MATH 1530 combined with MATH 0891 in spring 2015.
3. Add supporting materials in MATH 0891 to ensure success in MATH 1530. Align content of MyStat Lab content with MATH 1530 as deemed necessary in phase one of the pilot, using the model provided by Pellissippi State.

4. Use formative evaluation data as well as feedback from faculty teaching MATH 1530 to determine additional areas of improvement.

5. Develop the embedded co-requisite curriculum and methods of assessment.

6. Develop training manual for new faculty and those teaching the co-requisite course for the first time.

7. Continuously monitor and evaluate progress of students’ attainment of remedial competencies and MATH 1530 course concepts and skills.

8. Continuously develop the co-requisite curriculum and methods of assessment based on feedback from faculty teaching sections of MATH 1530, as well as summative evaluation data, to improve on determined areas of weakness.

Formative Evaluation Methods:

Because the pilot phase of this project is a “trial run” of the project during full implementation, assessment metrics are similar to those above. Importantly, MATH 0891/0892 will no longer be offered in fall 2015, and will be replaced with the newly created co-requisite MATH 0530 course. Summative evaluation methods are as follows:

1. % of students with ABC grades in MATH 1530 (those enrolled in the co-requisite course compared to those only enrolled in MATH 1530 and the annual ABC rate of 65.5% for the course)

2. % of students with ABC grades in MATH 0530, compared to the annual ABC rate of 56.2% for Math Learning Support as it is currently offered (MATH 0891 and MATH 0892)

3. % of students enrolled in the co-remediation model of Math Learning Support who report that instruction in that course has helped them be successful in MATH 1530 (evaluated via a survey administered at the end of Fall 2015)

Who is required to take the course?

Roane State offers 25 career/technical programs of study that lead to AAS, AFA, and AST degrees and 16 transfer programs (including Tennessee Transfer Pathways) that lead to AA or AS degrees. Many students are required (or permitted) to apply MATH 1530 credits towards degree completion. All students who score below 19 in math on the ACT will be required to enroll in MATH 0530 (formally 0891/0892) in conjunction with MATH 1530.

Collaborative Submission:

No.
Course: MATH1010
Other:
Past Student Headcount: 529   ABC%: 80

Description:
MATH1010 will be offered in a co-requisite model open to all entering students needing mathematical remediation. By Fall 2015, stand-alone Learning Support courses will be a thing of the past. To facilitate both remediation and retention, MATH1010 will be restructured and offered with MATH0010, a course emphasizing just-in-time remedial assistance to help students be successful in the college level course. The instruction in MATH0010 will address the five competencies of the current A100 guidelines. Projects which link directly to the MATH1010 content will be designed to fulfill the competency of modeling and critical thinking.

Academic Problem:
The co-requisite, embedded course will address:

- Remedial mathematical skills
- Reading, writing and critical thinking skills through completion of targeted projects

Explain how the revitalized course will enhance student learning and improve student success: Fewer than 50% of students who place into Mathematics Learning Support classes successfully complete the required five competencies and their next college level math course within the recommended two semesters. By offering a co-requisite course which is fully aligned with the college level course, students can address their math deficiencies while making progress towards graduation by completing a required core course. In addition, the projects will encourage students to understand the relevant ways that math informs everyday life. These projects also will foster group work and provide an opportunity to be actively engaged in the learning process.

Pilot Phase and objectives:
The pilot phase will begin in Summer 2015 with at least one co-requisite section at each open campus. Participating faculty will be identified during Spring 2015. During the pilot phase, the grant team will monitor the following aspects of the course:

- Enrollment
- Progress towards completing A100 guideline competencies
- Progress towards completing MATH1010

Project Steps:

- Develop curriculum for MATH0010 and make any needed changes to current MATH1010 curriculum. (January- March 2015)
- Identify and train faculty and tutors for pilot sections. (April- May 2015)
- Collaborate with PSCC administration to schedule and register for pilot sections. (February- April 2015)
- Monitor pilot sections and evaluate progress towards completion of deficiencies and MATH1010 objectives. (June-July 2015)
• Make additions and corrections as needed to facilitate expanded use of MATH1010/MATH0010 in Fall 2015 semester. (August 2015)

• Collect data on success of courses in large scale use during fall 2015. (August- December 2015)

Formative Evaluation Methods:

• Completion rates higher than those currently seen for the students requiring math remediation

• Demonstration of proficiency in remedial competencies and traditional MATH1010 learning objectives

Who is required to take the course?

Pellissippi State offers 27 career/ technical certificate and associate programs which typically have a required mathematics course which can be satisfied by taking MATH1010. MATH1010 is also an acceptable mathematics course for some transfer pathways. As stand-alone Learning Support course are no longer available, all students having math deficiencies will need to be placed in either MATH1010/0010 or MATH1530/0530 in order to address their remedial needs. Approximately 1338 first time freshmen (Fall 2014) students per year enter PSCC with math deficiencies. It is expected that this co-requisite course will be taken by a much larger portion of these students, especially those at lower than 16 ACT levels or those in programs whose math requirement can be satisfied by MATH1010.

Collaborative Submission:

Yes. We are collaborating with Roane State Community College in the development of a co-requisite course MATH1010/0010 with this redesign.
2015-2016 TBR Course Revitalization Project Summary

**Course: Other**

**Other: ENGL 0891**

**Past Student Headcount: 712**  **ABC%: 64.5**

**Description:**

In the traditional model, students who score below 18 on the English subsection of the ACT are required to enroll in Writing Learning Support course(s) (ENGL 0891/0892) before they may enroll in ENGL 1010 (Composition I). ENGL 0891 is designed so that students may complete all A-100 competencies in a single semester, but in fall 2013, 42.2% of students were required to either re-take ENGL 0891 or enroll in ENGL 0892. In the co-requisite remediation model, Writing Learning Support will be taught as a co-requisite to Composition I. In this model, students with ACT English scores below 18 will be enrolled simultaneously in ENGL 1010 as well as ENGL XXXX. Students in the co-remediation model will attend ENGL 1010 alongside other students who are not required to enroll in a section of Writing Learning Support (i.e., students with ACT English scores of 18 or higher). This format affords students the opportunity to complete writing learning support requirements and a college-level course in the same semester, accelerating their progress toward completion. The pedagogical advantage of the co-requisite model is that it will be more focused and more contextualized. Instead of asking students to compose a set of essays based on, but separate from, the essays they would have written the following semester in ENGL 1010, the co-requisite learning support instructor will provide additional help and support as students work through drafts of the same essays currently assigned to them in their ENGL 1010 class. The revitalized course will continue to use computerized instruction to provide students with lower-level grammatical instruction and practice.

**Academic Problem:**

As the college develops the co-remediation model for Writing, it will be necessary to ensure that remedial instruction in writing adequately prepares students for subsequent writing-intensive courses. It will be especially important that this instruction supplements Composition I because students will be enrolled in both courses at the same time. Intensive practice in the skills mandated by TBR for the communications competencies in the co-requisite pairing will enhance student success as they move into Composition II and any other writing-intensive course. As such, the Writing Learning Support course will continue to address the competencies needed for students to be successful in subsequent courses: quality and development of truths, organization, voice, tone, diction, run-on sentences, sentence fragments, spelling, punctuation, and other conventions such as pronoun consistency, consistent verb tense, subject/verb agreement, plurals, capitalization, parallel construction, etc. In addition, the course will reinforce these additional competencies taught in ENGL 1010: writing process, research conventions, research synthesis, purpose, audience, style, error correction, reading comprehension, and reading synthesis.

**Explain how the revitalized course will enhance student learning and improve student success:** The co-requisite model of Writing Learning Support will allow students the opportunity to advance in their academic programming faster than they could in the current model. For this model to be effective, it is important for the project team to learn from Roane State’s “sister institutions” who are further along in developing their co-requisite models for Writing Learning Support. Thus, grant funds will be used to travel to these other institutions to leverage some of the work done by these other schools and to derive some “best practices” for developing a successful co-requisite model of Writing Learning Support. Similarly, the team hopes to identify some common pitfalls and lessons learned by the other institutions. Training will be provided for both Writing Learning Support and Composition I faculty based upon the information learned regarding best practices and the pitfalls encountered by sister institutions.

**Pilot Phase and objectives:**
The overall goal of the pilot phase is to lay the groundwork for a co-requisite model of learning support instruction that is based on best practices and leads to student success in college-level writing-intensive coursework. To accomplish this, members of the grant team will visit other TBR institutions that have begun implementing co-requisite models for learning support. Based on the information gleaned from these visits, the grant team will provide training sessions for full-time and adjunct faculty of both Writing Learning Support and Composition I courses. Additionally, grant team members will create a new course manual for Writing Learning Support as well as a Best Practices Manual for Composition I instructors during the pilot phase.

**Project Steps:**

1. Receive approval from Academic Council for the revitalized Writing Learning Support class and its paired ENGL 1010 Composition I class.

2. Draft a class schedule for Summer 2015 (the pilot phase) that will allow students on the Oak Ridge campus to enroll in both the revitalized Writing Learning Support class and its paired 8-week long English 1010 Composition I course.

3. Determine which sister institutions have already begun using a similar co-requisite model.

4. Begin making site visits to sister institutions to discuss best practices with faculty members who have taught the co-requisite model.

5. Create syllabus for revitalized Writing Learning Support class.

6. Develop a course manual that reflects the changes made in the revitalized course to serve as a guide for Writing Learning Support instructors.

7. Create a best practices manual that can be used by both Writing Learning Support and Composition I faculty.

8. Hold training sessions for full-time and adjunct faculty members of Writing Learning Support and English Composition I to share best practices learned from sister institutions.

9. With assistance from the Office of Institutional Effectiveness and Research (OIER) and using formative evaluation findings, make necessary changes for the full implementation phase in Fall 2015.

10. Collect and report on all evaluation data at the conclusion of Fall 2015 semester.

**Formative Evaluation Methods:**

Because the pilot phase of this project is a “trial run” of the project during full implementation, assessment metrics are similar to those above. However, because all students who require remediation in writing will also be enrolled in a credit-bearing section of ENGL 1010 by fall 2015, the metrics vary slightly as follows:

1. At least 75% of students will earn ABC grades in the pilot section of Writing Learning Support, compared to the annual ABC rate of 64.5% for Writing Learning Support as it is traditionally offered (ENGL 0891 and ENGL 0892).

2. In the pilot section(s) of ENGL 1010, at least 75% of students will score “average” or better on all 5 learning outcomes evaluated with a writing rubric.

3. At least 70% of students who successfully complete Writing Learning Support will also successfully complete the co-requisite course (COMP I) with a grade of A, B, or C.
4. At least 80% of students enrolled in the pilot section of Writing Learning Support will report that instruction in the course has helped them be successful in ENGL 1010 (evaluated via a survey administered at the end of fall 2015).

Who is required to take the course?

Students who score below 18 on the English subsection of the ACT are required to enroll in Writing Learning Support course(s) (ENGL 0891/0892) before they may enroll in ENGL 1010 (Composition I).

Collaborative Submission:

Yes. The same project members are on the team to revitalize Reading Learning Support (READ 0891/0892). When the team members travel to sister institutions to determine best practices, at least some of those practices will be related to the actual implementation process. These practices will apply to the implementation stage of the co-requisite reading class, as well.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: READ 0891
Past Student Headcount: 545  ABC%: 68.6

Description:

In the traditional model, students who score below 19 on the ACT Reading test are required to enroll in Reading Learning Support courses (READ 0891/0892) which are prerequisites to most credit-bearing courses offered at the college. Thus, students must spend at least one semester completing the course requirements for Reading Learning Support before they may enroll in most other courses. READ 0891 is designed so that students may complete all A-100 competencies in a single semester, but in fall 2013, 38.6% of students were required to either re-take READ 0891 or enroll in READ 0892. In the co-requisite remediation model, Reading Learning Support will be taught as a co-requisite to a credit-bearing course, HUM 262 (Great Works: Introduction to Humanities). This format affords students the opportunity to complete learning support requirements and targeted entry-level courses in the same semester, accelerating their progress toward completion. According to research presented by the Board, entry into college-level coursework through a co-requisite model will yield not only higher Learning Support completion rates, but higher graduation rates for Roane State students. The pedagogical advantage of the co-requisite model is that it will be more focused and more contextualized. Instead of basing reading instruction on a broad range of topics and subjects, the co-requisite Reading Learning Support course will focus, at least some of the time, on the specific reading and study skills challenges of the Humanities textbook.

Academic Problem:

As has always been the case, as the college moves to the co-remediation model it will be necessary to ensure that Reading Learning Support adequately prepares students for their college-level courses, particularly those that are reading intensive. Through the creation of supplemental materials created to match the reading assignments of HUM 262 and through work assigned from the online program My Reading Lab (which will already be available through enrollment in READ 0891), students will be provided with additional instruction in identifying main ideas, major supporting details, minor supporting details, inferences, facts, and opinions, along with vocabulary development and other skills that will enhance their ability to read at a college level.

The co-requisite pairing of READ 0891 and HUM 262 will provide students with an opportunity to immediately apply the concepts and skills that are addressed in the learning support class in a reading intensive college level course. In addition to offering students instruction in identifying main ideas, major supporting details, minor supporting details, inferences, facts, and opinions, along with vocabulary development and other skills related to critical thinking and reading, this pairing will alter the perception that learning support students often have of being in a course which does not really count toward their college degree and help them realize the reading learning support curriculum’s relevance to future courses.

Explain how the revitalized course will enhance student learning and improve student success:  Project team members envision the revitalized course will continue to address, on an individualized basis via computerized instruction, discrete reading skills such as recognizing the main idea, recognizing major and minor supporting details, distinguishing between fact and opinion, and making inferences as is currently done in the traditional course. However, team members recognize a salient fact. The humanities text comes with instructional supplements to assist the instructor in teaching students about humanities, but the book does not provide support for students who need targeted reading instruction (i.e., those who are required to enroll in the co-requisite Reading Learning Support course).

Guiding students to apply reading comprehension strategies to the humanities text is the key component leading to the expectation of student success in the revitalized model. If funded, this project will allow the team members
to create instructional materials that will align with the humanities text with the specific purpose to improve reading comprehension of the content of the text itself.

In addition to the intrinsic value to students who engage with the instructional materials, the materials will enable the faculty member to create a holistic approach to the humanities material. Linking the holistic approach to the computerized element of the revitalized course is sound practice based upon reading pedagogy.

Also, a reading course manual will be prepared for the use of all reading instructors. The manual will include general instructions (including a course syllabus), all the prepared instructional materials, and additional suggestions for teaching reading in the content area of the humanities.

**Pilot Phase and objectives:**

The primary objective of the pilot phase of this project is to begin preparation for full implementation of the co-requisite model in fall 2015. Steps to accomplish this objective are outlined below.

**Project Steps:**

1. Receive approval from Academic Council for the revitalized Reading Learning Support class and its paired Great Works: Introduction to Humanities class.

2. Draft a class schedule for summer 2015 (the pilot phase) that will accommodate the revitalized reading class while allowing READ 0892 students (who have completed most, but not all, of our present Reading Learning Support class) to complete reading requirements in a non-pilot section.

3. Create syllabi for both reading and Humanities courses.

4. Begin a conversation between Reading Learning Support faculty and Great Works: Introduction to Humanities course faculty. A specific concern: selecting a core set of Humanities textbook readings that all Humanities faculty will agree to assign. Creating this core set of assignments will enable Reading faculty to focus instruction on the specific reading challenges all Reading Learning Support students, at every campus, no matter their Humanities instructor, will share.

5. Develop a course manual to serve as a guide for Learning Support instructors. Crafting this course manual—specifically, developing a collection of reading comprehension, vocabulary, and study skills questions addressed to core Humanities textbook chapters—will be the committee's major task.

6. Continue our practice of providing ongoing training to Reading Learning Support faculty, especially for those unfamiliar with the online component of our revitalized class, MyReadingLab.

7. With assistance from the Office of Institutional Effectiveness and Research (OIER), and using formative evaluation findings, make necessary changes for the full implementation phase, fall 2015.

8. Collect and report on all evaluation data at the conclusion of the fall 2015 semester.

**Formative Evaluation Methods:**

Because the pilot phase of this project is a “trial run” of the project during full implementation, assessment metrics are similar to those above. However, because all students who require remediation in reading will also be enrolled in a credit-bearing course by fall 2015, the metrics vary slightly as follows:

1. At least 75% of students will earn ABC grades in Reading Learning Support, compared to the annual ABC rate of 68.6% for Reading Learning Support as traditionally offered (READ 0891 and READ 0892).
2. The course-embedded assessment results of students enrolled in HUM 262 as a co-requisite will be the same as (or higher than) that of students enrolled in HUM 262 with no co-requisite Reading Learning Support requirements.

3. At least 70% of students who successfully complete Reading Learning Support will also successfully complete the co-requisite course (HUM 262) with a grade of A, B, or C.

4. At least 80% of students enrolled in the co-remediation model of Reading Learning Support will report that instruction in the course has helped them be successful in HUM 262 (evaluated via a survey administered at the end of Fall 2015).

Who is required to take the course?

Reading Learning Support is required of all students who earn an ACT Reading score of less than 19. Currently, it is a pre-requisite for most of the credit-bearing courses that are offered at Roane State.

Collaborative Submission:

Yes. The same project members are on the team to revitalize Writing Learning Support (ENGL 0891/0892). As team members worked together, they recognized the important principle of applying contextual focus to the Reading Learning Support class. This collaboration resulted in the strong desire to bring a similar contextual focus to the Writing Learning Support class. Specifically, the team’s proposal for the Writing Learning Support co-requisite model includes the following change. Instead of asking students to compose a set of separate essays, Writing Learning Support instructors will provide additional help and support as students work through drafts of the same essays assigned in the co-requisite Comp I class. In other words, rather than simply pairing the classes, the classes would now be fully integrated.
Course: Other
Other: SPAN 1020
Past Student Headcount: 932  ABC%: 73

Description:

The new course is intended to provide a better transition from students’ previous educational backgrounds into their second foreign language course at the elementary level in college. We understand that our students are in a transition period and come into our classrooms with varied educational and work experiences (e.g. high school, community colleges, career changes). Thus, it is necessary to take into consideration the learner’s need to adjust to the expectations and requirements that college education entails. Thus, we are arguing for a more realistic course plan for what students are expected to cover and retain than is currently the case with the idea that they will move on to the next semesters with significantly better comprehension and ability to succeed. We set out to achieve this goal in the following way. First, we want to design a syllabus that is more in accordance with our students’ needs and backgrounds. With that in mind, we will reduce the material covered in this course and reorder the way in which the units are taught. Second, we will create custom-made materials, which will allow students (even those students with a deficient high school education) to reach a better understanding of the subject matter. For that purpose, our materials will integrate vocabulary, grammar and culture in a straightforward way that makes better sense to the students. By creating materials that constantly revisit past topics from Spanish 1010 and approach the same topics from different perspectives, we expect to create a solid foundation at the introductory level by promoting critical thinking in a way traditional materials do not. This will allow the students to continue in the Spanish sequence 2010 (Intermediate Spanish I), 2020 (Intermediate Spanish II) with better preparation. Third, we will design standard evaluation instruments and assignments to ensure quality instruction across levels. Finally, we will implement a self-evaluation of students before major tests in order to track their learning experiences in the revitalized course. The goals set for the students, materials and assessments will be based on the standards of the American Council on the Teaching of Foreign Languages (ACTFL). However, everything will be customized to our students’ needs to guarantee greater success at the introductory level.

Academic Problem:

We are addressing two main problems with this project: (1) poor performance on this course in traditional classes, which directly results in the next problem: (2) high rate of student attrition. Following is the data for Fall 2013 and Spring 2014 combined

SPANISH 1020
As  235
Bs  241
Cs  197
Ds  75
Fs  85

Total Enrollment 922
Number of sections 33
Attrition rate 10.2%
Success rate 73%

As seen in these figures, Spanish 1020 enrolls a large amount of students (922). Coordination across sections is of paramount importance given the high number of sections per year (33). Also, success in the second course at the introductory level (right now 73%) is essential to retain students during the Spanish sequence of required courses and make sure students succeed in their foreign language requirement.

NOTE: These figures do not include RODP sections of SPAN 1020 which, although taken by University of Memphis students, are not taught by U of M faculty.

Explain how the revitalized course will enhance student learning and improve student success: We believe the changes to the course will enhance student learning and improve student success in several ways. By reducing the number of items to be taught, we expect students to be able to understand the core information without the difficulty previously experienced. Also, by reordering the material in the syllabus in a way that is more coherent, we expect students to be able to follow it in a more natural way. The standardized syllabus will be used by the entire faculty and TAs teaching the course and it will provide the same guidelines across the sections, securing uniform instruction. Additionally, the new materials geared towards repetition and recycling of previous content reinforce students’ learning throughout the semester, which should significantly increase their chances of success at the end of the semester and in subsequent Spanish courses. In order to improve reading skills in the second language, a standardized series of 5 readings will be instituted in the syllabus and in the course. The readings will be designed with the format of the assessment in mind. Instructors will be given specific instructions of how to conduct the pre-reading, during-reading, and post-reading activities. In order to improve student retention and success rate, an intervention email will be sent to each student who scores 70% or below on the first and second assessment. The emails will encourage students to meet with the instructor during office hours, provide the times and locations of free of charge tutoring with the Department of Foreign Languages and as well as with The Educational Support Center (ERC), and provide links to Spanish testing resources online. Finally, by implementing standard assessments across levels, we guarantee consistent instruction across levels. Consequently, students who succeed in Spanish 1020 should experience minimal difficulty moving into the intermediate level and more advanced courses regardless of the instructor since the instruction of all faculty and TAs will prepare students with common standards in mind.

Pilot Phase and objectives:

The pilot phase will take place during the Fall of 2015. Following are the objectives for the pilot project:

- Prepare a standardized syllabus.
- Create integrated materials.
- Design standardized assignments in line with the National Standards for Foreign Language Education.
- Expand teaching expertise by providing methodology workshops on a regular basis. This will include, among other topics, use of computers and other technology as teaching tools (e.g. blogs, social media, et cetera). Workshops will be presented by experienced faculty members who have taught the subject over many years and are familiar with the University of Memphis student body.
- Check quality of instruction. Regular classroom observations will be conducted by the four team members to ensure continuity and consistency throughout the department.
- Increase leadership skills among the faculty but especially among the less experienced Teaching Assistants teaching Spanish.
Create active and collaborative learning techniques and methods for interdepartmental committees to improve and maintain quality of instruction and assessment. Although the instructors of all languages are invited to the workshops and meetings designed for this purpose, they are specifically designed for faculty and TAs teaching Spanish.

Teaching Assistants will be paired with experienced faculty member in order to develop professionally and learn to conduct a class on their own.

**Project Steps:**

The project will analyze instructors’ needs in Spanish 1020 and based upon that data will lead to the design of a new syllabus, lesson plans, and assessments. We outline the phases of the process below.

**Phase I: Planning**

- Participants: TAs and instructors teaching Spanish 1020 courses in the university foreign language department are required to complete a pre-service training workshop.

- Strategy: a questionnaire will be used to collect the data in order to anticipate teaching needs for future orientations. The questionnaire, created with Google survey, and its instructions will be distributed to the TAs and instructors using the university email system. Adoración Berry possesses the technical expertise to develop the questionnaires and the training to develop them. On the other hand, Dr. Gómez Soler has the experience of designing and analyzing data coming from large populations, which she has acquired through her pedagogical training and line of research, which includes constant statistical analysis of large amounts of data.

- Analysis: the data collected from the questionnaire will be reported by frequency and ranked by topic, focusing on importance reported by the participants.

**Phase II: Questionnaire preparation**

- Questionnaire:
  - Composed of ten multiple choice questions and three open-ended questions with the purpose of creating an orientation unit that is representative of the TAs’, instructor’s, and also learner’s needs
  - Google forms will be used to create a confidential questionnaire that will be forwarded to TAs and instructors via email with a return deadline of seven days.

**Phase III: Data Collection**

- Google survey data will be used to collect the data

- Compose graphics

**Phase IV: Analyzing the data**

- The data collected will be analyzed using frequencies

- The data collected will be presented in quantitative and qualitative format

- Graphics: the multiple choice questions will be analyzed and represented graphically.

- Tabulations/summarized: open ended questions will be transcribed, bulleted, and then summarized

**Phase V: Design of new syllabus, materials and assessments**

- The results from the Needs Analysis Assessment Survey will be used to prepare:
A new syllabus

Integrated materials

Standardized assessments

Pedagogy workshops

Formative Evaluation Methods:

We will use the same methods described in (6). However we will perform a three-way comparison by comparing the results of the project with the pilot and the data from the previous academic year.

Who is required to take the course?

The following students at the University of Memphis are required to study at least two semesters of a foreign language:

a) Students pursuing a Bachelor of Arts or a Bachelor of Science degree in the College of Arts and Sciences

b) Students pursuing a Bachelor of Arts degree in the College of Communication and Fine Arts

c) Students pursuing a major in International Business in the Fogelman College of Business and Economics.

Two thirds of approximately 6,000 students taking a foreign language course annually choose Spanish, either to fulfill one of the above requirements, or in preparation for pursuing a major or minor in Spanish.

Collaborative Submission:

Not with a current submission but we did work on a Revitslization grant for Spanish 1010 last year.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: BIOL 1030/31
Past Student Headcount: 1485   ABC%: 68

Description:

General education science courses have a critical role in the university curriculum. In addition to promoting student understanding of important scientific concepts, they also serve as platforms to help students think critically, independently and scientifically about important issues that impact their lives. Exploring Life (BIOL 1030/31) is MTSU’s only biology course designed specifically for non-majors. With an annual enrollment of approximately 2,000 students per year (predominately freshmen and sophomores) and lecture classes ranging from 115 to 235 students per class, the potential impact of this laboratory-based course on MTSU students’ scientific literacy is profound. Even more compelling is a recent MTSU self-analysis on student success revealed BIOL 1030/31 to be one of the top 10 enrolled and predictable courses of student’s overall ‘academic success’ in that data show 73% of students passing the BIOL 1030/1031 course with a C or better continue on to graduate. Unfortunately, high student %DFW rates in the course are correlated with lower graduation rates. A more recent undergraduate review included a survey addressing instructional practices utilized by faculty teaching this course. The survey revealed traditional ‘lecturing’ to be the dominant instructional approach utilized. This ‘sage on the stage’ instructional approach places students in a passive learning role—one that is often associated with an emphasis on lower-level thinking skills and student disengagement from course content. Given the importance of this course to the development of scientific literacy of such a large percentage of MTSU students and graduation success, a redesigned course structure that engages students in the learning process and emphasizes critical thinking is proposed.

A revised course structure that utilizes an instructional approach featuring student-centered, active learning curricula and techniques similar to POGIL (Process Oriented Guided Inquiry Learning) and BEARcAt (Biology Education Activities for Relevance and Critical Thinking) is at the heart of the proposed course revision. Both POGIL and BEARcAt activities: utilize the ‘Learning Cycle’ in their structure, require students to work collaboratively, engage student’s critical thinking skills, and encourage students to construct their own understanding. In addition to shifting the classroom from a passive to an active learning experience, these activities will serve as a vital nexus between the lecture and laboratory portions of the course. The initial stage of the learning cycle (concept exploration) will be introduced in lecture while subsequent stages of concept invention and experimentation will occur in the labs. This will help to solve a recurring problem voiced by students in the current course structure: lecture and lab seem like two separate, unrelated experiences. Thus, this revitalization will include not only lecture, but also the laboratory aspect of the course.

Academic Problem:

Student disengagement from the learning process, a focus on superficial coverage of content rather than meaningful learning and a lack of cohesiveness between lecture and laboratory components of the course are factors that may be contributing to decreased levels of student success in the course. The average student %DFW rate for the course over the past four years is 32%—significantly higher than comparable courses. Revitalizing the course by diversifying the instructional approach through the incorporation of student-centered, active learning strategies and curricula can be a mechanism to increase student engagement in the course, foster meaningful learning, and promote the development of critical thinking skills. Additionally, we’ve seen that building community among students and team work has had a positive impact on other introductory science courses at MTSU, in particular in the physics department. Therefore, there is strong reason to think that this project will have a similar impact and will translate to higher levels of overall student success in the course including lower %DFW rates and increased university retention and graduation rates.
Explain how the revitalized course will enhance student learning and improve student success: Research has revealed active-learning strategies to be effective in promoting critical thinking, meaningful learning, and fostering student engagement and motivation in university science courses. Implementation of these instructional strategies will serve to revitalize the course by making course content relevant, encouraging students to think critically about important scientific issues in their lives and promoting students to construct their own understanding. The lecture aspects of the course will be transformed from one that focuses on memorization to one that focuses on the use of the science as a method of inquiry to make informed decisions about issues at the interface of science/biology and society. Preliminary research by members of our team showed a dramatic reduction in %DFW rates in classes where active learning is mediated through clicker technology. Successfully implemented, this shift may result in higher levels of student success at MTSU, and better prepare our students for life in a scientifically advanced society.

Pilot Phase and objectives:

The pilot phase of the project will entail selecting, modifying and developing the active learning exercises (POGIL and BEARCaT) for the course and connecting lecture and laboratory elements through the exercises. This will be followed by field-testing of the exercises in selected sections of the course. In addition to assessment of student attitudes about the effectiveness of the activities, faculty and graduate students teaching the piloted sections will keep a journal detailing their experiences in implementing the exercises—with the aim of providing information for their revision and guidance to future faculty in their usage. Data on student retention rates in both the ‘pilot’ sections as well as the ‘traditional’ sections will be collected. End-of-course survey results on students’ perceptions of the effectiveness of both the pilot and traditional sections in meeting course goals will be collected. These data along with student achievement and retention data will be compared to evaluate the effectiveness of the revised course structure.

The project objectives: (1) Generate a scope and sequence lecture schedule with coverage of a topic in lecture prior to lab; (2) With emphasis on the process of science throughout the course, implementation of group (collaborative) activities that build conceptual understanding in lecture and lab; (3) Integration of active learning strategies (POGIL and BEARCaT) during lecture that challenge and engage students; and, (4) Use of supplemental essays, journal articles, and readings to promote class interaction/discussions.

Project Steps:

Spring 2015

1. Work with department chair (Dr. Lynn Boyd) to schedule and coordinate lecture and laboratory sections to pilot the revised instructional approach featuring student-centered, active learning exercises.

2. Finalize faculty and graduate students (who teach the labs) who will participate in the piloting.

Summer 2015

1. Faculty course design teams meet bi-weekly. Graduate students meet monthly with course design team to provide suggestions.

2. Identify core biological concepts and science process skills for the course.

3. Select, modify, and develop student-centered, active learning exercises (POGIL and BearCaT) that correlate with course content and skills.

4. Sequence the exercises, coordinating them with coverage of materials in lecture and lab.
Fall 2015

1. Conduct pre-study assessment to determine students’ level of scientific literacy, attitudes toward science, and critical thinking skills in both the pilot and traditional sections.

2. Implement study using active learning exercises in pilot sections and currently utilized instructional approach in traditional sections.

3. Faculty course redesign team meet weekly to discuss journal reflections and student formative assessments.

4. Faculty course redesign team meet weekly with graduate teaching assistants facilitating pilot sections to discuss laboratory lessons.

5. Conduct post-study assessment to measure students’ level of scientific literacy, attitudes toward science, and critical thinking skills in both the pilot and traditional sections.

6. Collect end-of-course data from both pilot and traditional sections on students’ perceptions on how effective their sections were in meeting course goals.

7. Determine student retention and %DFW rates.

8. Revise the activities based on student data and faculty reflection/experiences.

Formative Evaluation Methods:

At the end of semester, students will be re-administered the evaluations of scientific literacy, attitude toward science and critical thinking. Change in these variables will be assessed and comparisons between the pilot sections and the traditional sections will be made. Differences in student achievement, overall %DFW rates and perceptions of the course in meeting its objectives will be explored. Faculty journal entries will also be analyzed for trends and patterns. The most appropriate analysis for these data will be selected and evaluated to determine if the course revitalization positively impacted student outcomes.

Who is required to take the course?

Any student that is not a science major can take Biology: Exploring Life (BIOL1030/31) to fulfill half of the General Education Natural Science requirement. It is a one semester, four credit course (three hours lecture, two-hour laboratory) designed for non-majors. Occasionally, advisors will recommend this course for nursing or science majors with weak backgrounds in a lab-based course. Students earning an A in BIOL 1030/31 that declare a major or minor in Biology may substitute 1030/31 for the major’s introductory course, BIOL 1110/11, to meet requirements for the major or minor. As a 1000-level course BIOL 1030/31 is historically composed of 60% freshmen, 30% sophomores, 6% juniors, and 4% seniors. With nearly 90% of students enrolling as freshmen or sophomores, this course is a General Education gateway course.

Collaborative Submission:

This redesign is not part of a collaborative with another submission.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: PS 1005 Intro to American Government
Past Student Headcount:397   ABC%: 72

Description:
When fully implemented, the revitalized PS 1005 will differ from the current course design in several crucial areas:

- the course will utilize an active learning approach from start to finish
- the course will involve extensive group interaction
- the course will provide for far more student-faculty interaction
- the course will utilize a range of assessment tools

As currently taught, PS 1005 is a fairly standard lecture-based course. Students largely work independently, reading, attending class and taking lecture notes, and completing periodic examinations consisting largely of multiple-choice questions and short essays. In this design, students are largely passive recipients of the information and the amount of interaction both between students and students and faculty is fairly limited. There is class discussion, of course, but the vast majority of class time is devoted to faculty lectures.

The proposed redesign will greatly increase the amount of interaction among students and between students and faculty, building a real learning community and mutual supports. The primary mechanism for this will be an active learning approach, with students working together in groups, working with real data and problems, and applying the fundamental concepts of the course in practical, real-world settings. There is extensive research on the active learning approach and its effectiveness in engaging students, deepening understanding, and developing skills.

This approach will necessarily incorporate a much broader range assessment approaches than the current system of periodic examinations. The redesigned course will have exams, of course, but students will also be assessed on active participation, group interaction and problem-solving, and presentation skills in a variety of group settings and formats. This broader range of tools will provide for fuller assessment and assessment that taps far more skills and learning styles.

Academic Problem:
The revitalized PS 1005 will address several often overlapping problems common in the current course:

a) PS 1005 is a General Education course, and, as such, most of the students are not Political Science majors. These students often enter the course unenthusiastic about the subject and material, and often fail to see the relevance of the material to their lives.

b) A very significant percentage of the students in PS 1005 sections are non-traditional students—veterans and other older students who have often been out of formal schooling for some years. They very often feel disconnected from the other students and the classroom environment.

c) PS 1005 is open to students who are still working to address deficiencies through developmental courses, and thus most sections have a number of students who may struggle with traditional examinations, essays, and research papers. It is important to retain and develop these skills, obviously, but to also incorporate, develop, and assess the full range of skills students bring to the classroom.
d) Many students remain reluctant to meet, talk with, and seek help from faculty members. Despite regular office hours and prompt responses to emails and pleas for students to seek advice and help when needed, many students still say they feel somewhat intimidated to meet with faculty when they need assistance.

Explain how the revitalized course will enhance student learning and improve student success: The revitalized PS 1005 will address each of the problem areas outlined in number 2 above, and thus enhance student success:

- The active learning approach in the revitalized course is designed to increase student engagement with the material and let them see, hands-on, the relevance to their lives.

- The emphasis on group involvement and problem-solving is designed to build a real learning community, and thus address the issue and help overcome the disconnection some non-traditional/returning students feel in the classroom.

- The redesigned course will evaluate students with a broader range of assessment tools, including group problem-solving and both small and larger group presentations, and this should help those in the process of addressing deficiencies to succeed.

- The redesigned course will involve far more and far more regular student-faculty engagement, and this is designed to overcome the reticence some students to ask for advice and address problems being encountered.

Pilot Phase and objectives:
The pilot phase will have two broad areas of effort:

a) Planning and Design

1. Research will be continued on active learning techniques.

2. Research will be continued on using groups to foster a learning community and develop problem-solving skills.

3. The course material will be sectioned into 12-15 substantive modules. For each module, several active learning exercises and activities will be designed. This will involve a range of data analysis exercises, small simulations, debates, short video presentations, and group problem-solving exercises.

Sections of PS 1005 are taught by six to ten different faculty members each year, and so multiple active learning exercises and activities will be designed for each module to allow faculty to craft their own courses while maintaining the common design of the revitalized course.

b) Teaching an Experimental Section with the New Design and Refinement

1. During the fall 2015 semester, two sections of the revitalized course will be taught by Lisa Langenbach and Kent Syler. These sections will incorporate regular evaluation and reflection—by both students and faculty—on the effectiveness of different aspects of the redesign, as outlined in sections 6 and 7 below.
2. Based on the student and faculty evaluations and reflections, active learning activities will be added, dropped, and refined.

3. All the course materials created for the revitalized course will be made available to all faculty teaching PS 1005 sections by uploading them into the Learning Repository of the Desire-to-Learn (D2L) course management system.

**Project Steps:**

I. Continue research
   a. on effective design and implementation of active learning techniques
   b. on effective design and implementation of group work and classroom community building

II. Design new course materials
   a. a new syllabus reflecting the revitalized course design
   b. a statement of learning objectives for the revitalized course
   c. division of course content into relevant modules
   d. design/creation of 3-5 active learning activities and exercises per module

III. Design of evaluation and reflective materials
   a. materials students will complete to evaluate and reflect on the new approach at the start of, during, and at the end of the experimental section
   b. materials faculty will complete to evaluate and reflect on the new approach at the start of, during, and at the end of the experimental section

IV. Fall 2015: teaching and evaluation of an experimental section of the revitalized course

V. Refinement of new course and course materials
   a. syllabus
   b. learning objectives
   c. module design
   d. active learning activities and exercises
   e. assessment tools

VI. Make all final revitalized course materials available to faculty in the D2L Learning Repository

**Formative Evaluation Methods:**
During the fall 2015 experimental sections of the revitalized course, several evaluative and reflective methods will be used to assess effectiveness.

First, students will complete an evaluation tool at the start of the semester designed to gauge their experiences and attitudes regarding the approaches taken in previous introductory General education courses, what problems they typically see or encounter, and attitudes toward different classroom techniques.

Second, at least three times throughout the semester, students will complete an evaluation tool assessing their attitudes and perceived effectiveness of the new course approach, activities, and exercises. These tools will ask about areas of strength and weakness about the specific active learning and group exercises completed in the course. This information will be used to refine the materials.

Third, class visits/observations will be conducted during the experimental section.

Fourth, the faculty member teaching the experimental section will maintain reflective notes of the effectiveness of the approach and materials used in each course module.

Fifth, at the end of the semester, the Political Science Chair will conduct an oral evaluation with the students in the experimental section and draft a summary.

Sixth, grade and retention data on the experimental section will be compared to other sections of PS 1005—both to other section taught by other faculty during the fall 2015 semester, and to sections taught by Professors Langenbach and Syler in previous sections.

Who is required to take the course?

PS 1005 is a core requirement for all students majoring in general Political Science, Political Science with a Pre-Law Concentration, Political Science with a Public Administration Concentration, and Political Science for Teacher Licensure. It is also a requirement for the Minor in Political and Civic Engagement.

PS 1005 is also a General Studies course and fulfills a Social/Behavioral Sciences requirement. As such, it is taken by students across all colleges and departments at MTSU.

Collaborative Submission:

no
2015-2016 TBR Course Revitalization Project Summary

Course: HIST 1110
Other: & HIST 1120
Past Student Headcount: 600       ABC%: 65

Description:

HIST 1110-1120 has been a part of Walters State’s core general education curriculum since 1970 and has continued to prepare our students for success in a rigorous transfer program. We are finding that increasingly more of our students are coming to us needing greater assistance in achieving academic success here and in preparing for the challenge of junior level work. While we have continually evolved and adjusted our instruction to provide quality education to many who have been under-served, we believe that a more far-reaching redesign would greatly facilitate our goals and our students’ level of success. To this end, we propose the following process.

The first week of class will involve both in class and online orientation and discussion of suitability of the student’s study habits for the course and the course’s relevance to the student’s educational goals. The revitalized course will focus more on student study skills than the traditional course. Rather than deliver lectures in traditional format, study aids/ outlines will be created for students so that content can be covered in a more timely fashion and allow for more in-class participation from students. The participation will include in-class reviews, presentations, discussions, mandatory study groups, and student-led activities. This will involve a revamped evaluation process of the student’s work. In essence, a large portion of the class will be flipped to allow lecture to be delivered outside class, so that the in-class time can be used for more hands-on and active learning activities.

Academic Problem:

The main academic problems that will be addressed are inaccurate registration information, late withdrawals, unrealistic student expectations, and an absence of study skills. We find that a number of recent high school graduates are accustomed to using study notes or other aids during exams and have not learned how to assimilate knowledge nor have developed the ability to analyze historical developments in relation to the past or present. They are also unfamiliar with how to read content before the class period to facilitate learning during class time. The revitalized course will target a lack of skills for success in the study of history through a weekly self-check function and redesigned evaluations that address a greater variety of learning styles.

Explain how the revitalized course will enhance student learning and improve student success: It will enhance student learning because it will take a more active and hands-on approach to a traditionally lecture-based subject. This will facilitate active and visual learning and give students a more vested interest in their success. It will help ensure that students are not only accessing content, but also actually absorbing and learning the information. It will prepare students by helping them acquire skills for success with online and in class reinforcement of course activities; in addition a modified evaluation process will enable students with differing learning styles to achieve success.

Pilot Phase and objectives:

The pilot phase will involve advising changes, development of specific activities related to course materials and study skills modules for in-class activities and textbook readings. The objective will be to determine the best activities and aids for the course and subject material. Student feedback will be essential in determining the most effective, individualized tools. A number of lectures will be converted to be delivered outside class using eLearn and other online learning tools.

Project Steps:

a. Work with Learning Support and Student Services Counseling on advising process
b. Determine if enrollment software can be modified to ensure proper placement

c. Modify course syllabus to include participation grades for activities and a greater variety of evaluation components

d. Develop study aids / skills module for enhanced classroom activities and textbook readings for use by students in and outside of class; this will include a geography component to increase spatial awareness and its importance in the sequence of historical events as well as greater awareness of the world in which students live

e. Flip lectures to be delivered electronically through eLearn and other online learning tools (Camtasia, YouTube, etc.)

f. Develop in-class activities for students and determine which topics are best suited for class activities

g. Determine method to evaluate the tools most useful to students

Formative Evaluation Methods:

Both individual and group evaluations will be compared to prior semesters where these new tools and techniques were not utilized to determine if there is a noticeable increase in student mastery. A survey will also be given at the end of the semester to students to evaluate their preparedness for class, the usefulness of the tools, and their belief on whether or not they feel the instructional methods were successful and relevant.

Who is required to take the course?

All history majors; all those wishing to transfer to the University of Tennessee and other senior institutions requiring a non-US History; all those not wishing to take American History to fulfill their General Education course requirements

Collaborative Submission:

No.
2015-2016 TBR Course Revitalization Project Summary

Course: ENGL 1010
Other: ENGL 0810
Past Student Headcount: 3397  ABC%: 67

Description:

Our proposal is to redesign ENGL 1010 to include a required semester-long co-requisite instruction experience that interfaces with the credit bearing class for students with an ACT below 18 who have not demonstrated that they have achieved the A-100 Writing Learning Competencies. The credit bearing class experience will be identical to that taken by students who have ACT subscores above 17, and no elements of the co-requisite instruction experience will contribute to the grade earned in the credit bearing course. The students will still be assessed in all of the established developmental learning competencies. While it is possible for the student to complete the A-100 competencies without earning a passing grade in the credit bearing class, if they pass the credit bearing class they will be deemed to have also satisfied the competencies.

This three-hour course will be offered in Humanities computer classrooms. To provide additional remediation to all students in the course, the Composition I curriculum will incorporate introductory material on critical reading and sentence-to-essay writing instruction. The course will also pilot Norton’s InQuizitive student interactive program in order to provide additional reinforcement of important writing skills and to test a possible alternative electronic component to the course. Finally, instructors will strongly encourage some level of outside writing tutoring in the College Reading and Writing Center.

ENGL 0810 will be offered in the Donald F. Andrews College Reading and Writing Center. These courses will be taught via Pearson’s MyWritingLab technology that will allow the classes to be monitored by appropriately-credentialed personnel who will be paid hourly. These personnel will assist students with technology issues, provide passwords, and follow the progress of students through the completion of online materials, providing content-specific tutoring as needed. Such staffing will significantly alleviate the difficulties inherent in both scheduling and budgeting. The discussion and writing components of this course will be removed and included in Composition I course through both additional and currently-existing classroom activities. Furthermore, the software package will be reevaluated to ensure adequate content coverage in response to the new distribution of instructional emphases. Students will be assessed in the course on a pass/fail basis and required to meet a minimum grade of 70% in order to achieve the “pass” designation. This designation will prevent the course from impacting a student’s financial aid status.

Academic Problem:

The most significant problem that this revitalized course addresses is the retention of skills through course progression. Students seem repeatedly unable to remember what they have learned in one course when they begin the next. This obviously impedes forward motion. When these two courses are paired, it allows students to practice their writing skills throughout the semester in multiple situations. Asking students to apply skills from one course to the other will often result in a level of critical thinking that promotes higher learning and a better ability to retain information. The addition of Norton’s InQuizitive program and the encouraged additional tutoring will also assist with this retention effort because of the opportunities they allow for extra practice.

Students who arrive at college without college-level academic skills are often forced to take learning support courses for an extra semester. This can be discouraging and often has an impact on academics. Students need to see how their coursework impacts their progress toward their degree as well as their life goals. If able to take ENGL 1010 and ENGL 0810 as corequisites, students will be able to progress toward their degrees more quickly and be less impacted by discouragement that often impacts course attendance and effort.
Explain how the revitalized course will enhance student learning and improve student success: As mentioned above, this course will allow for an increased retention of course student learning outcomes as well as additional opportunities for critical thinking and higher learning that will lead to increased student success.

Pilot Phase and objectives:

The main objective of this revitalized course is to help students progress through their core courses more quickly and to become proficient in college-level writing skills at a faster pace than previous curriculum requirements would allow. By making ENGL 1010 and ENGL 0810 corequisites, this pilot accomplishes this goal, while also ensuring student success through other course additions and revisions, such as the additional activities and materials at the beginning of ENGL 1010 mentioned above.

During the pilot phase, Lori Barton and Ann Nicodemi will each teach a section of ENGL 1010 with a corequisite ENGL 0810 course in the Fall 2015 semester. Joel Henderson will assist with curriculum development and data gathering throughout the semester.

Project Steps:

1. ENGL 1010 will be redesigned to include additional review at the beginning of the course of critical reading and sentence-level writing skills.

2. ENGL 0810 will be redesigned to use of Pearson MyWritingLab products and will staffed with appropriately credentialed personnel who will assist students with completion and mastery of these online materials.

3. Work with Norton to provide students with InQuizitive materials.

4. Work with the Office of the Registrar to appropriately set up these courses and assist students with registration.

Formative Evaluation Methods:

Final grades for the revitalized Composition I course paired with the revitalized ENGL 0810 will be compared to those taking these courses in a more traditional setting.

Additionally, before the course begins the instructor will create a rubric to assess the course learning objectives for Composition I. Students will complete a diagnostic essay at the beginning of the term that will be assessed with this rubric. Their second essay will also be assessed with this rubric and each student will have a chance to see how they have progressed by midterm. This rubric will also be used to assess the final exam essay. Ultimately, the instructor will able to see a trajectory for each student’s course learning objectives.

Who is required to take the course?

Students who should take this course are those with an ACT Writing subscore below 18 who have not demonstrated that they have achieved the A-100 Writing Learning Competencies will be enrolled in a co-requisite section of ENGL1010.

Collaborative Submission:

No
2015-2016 TBR Course Revitalization Project Summary

Course: ENGL 1010
Other: ENGL 1010 with combined co-req for learning support reading AND writing

Past Student Headcount: 1124  ABC%: 60

Description:
The proposed redesigned ENGL 1010 with a combined co- requisite of Learning Support Reading and Writing course will combine the skills traditionally taught in learning support reading and writing courses into a single three hour course with the purpose of improving both writing and reading skills and ensuring success in ENGL 1010. The reading material covered will be selected from the reading assignments found in the ENGL 1010 textbook with the purpose of helping students understand elements of reading generally reviewed in Reading 0810 and the relationship between skills learned in the two learning support courses.

The course will consist of four over-lapping components with each component designed re-reinforce both reading and writing competencies required for completion of both READ 0810 and ENGL 0810 and needed for success in ENGL 1010.

Component One: Grammar: The grammar and vocabulary component of the combined course will include technology based programs, use of reading assignments to illustrate the importance of punctuation, sentence variety, word choice, and individualized assignments based on frequency of errors in written compositions.

Component Two: Combined Themes in Reading and Writing: Since reading and writing skills are interconnected, specific skills will be taught in conjunction with one another. Activities will focus on student understanding of topic sentences and main ideas, supporting sentences, use of details, and inference both in their own writing and their assigned readings. Organization and relationship skills will be taught through the assigned readings in ENGL 1010 and re-enforced in writing assignments. Vocabulary development will be taught through the assigned reading materials as well as through word choice when writing. All activities will reinforce critical and logical thinking skills needed for understanding and application in both reading and writing.

Component Three: The Discussion/Clarification/Classroom Chat: The third component will be a classroom chat concerning understanding of both reading and writing assignments, including clarification of the purpose of the assignment, requirements of the assignment, and terminology used for the assignment (point of view, rhetorical modes, thesis statements, etc.), and the connection between reading and writing skills. This will not be a lecture but student- generated, teacher guided conversations concerning assigned material.

Component Four: Tutoring and Individualized Conferences: Individualized conferences and tutoring programs will be an important part of the synthesized course of reading and writing. Students will meet with instructors to review student essays and discuss progress. Instructors from both the combined learning support class and the ENGL Comp class will communicate regularly for updates on student progress. Teachers will take advantage of the Academic Support Center on campus and will introduce students to the SmartThinking (or similar program) electronic writing center.

Academic Problem:
The proposal addresses three academic concerns: students being discouraged by the number of hours they must take before entering college level classes, the poor success rate in completing learning support classes, and lack of success rate in ENGL Composition I.

Explain how the revitalized course will enhance student learning and improve student success: The philosophy of the proposers of the course is that the skills taught in both learning support reading and writing are the same, and
that when the course is combined as a co-req students will be able to apply the skills directly to composition assignments, while reducing learning support courses in reading and writing from six hours to three hours.

**Pilot Phase and objectives:**

The pilot phase will have one to two learning support sections (combined reading and writing) and one to two Composition sections. Students in ENGL comp will be taught by Linda Patterson and Clair Berry, both with master’s degrees in English. The combined learning support class will be taught by Ruth Sowell, who has a master’s degree in Reading and 18 additional graduate hours in English.

**Project Steps:**

- Create a syllabus outlining all aspects of the course.
- Establish joint units for combining reading and writing assignments.
- Establish grading guidelines.
- Schedule sections of the 0810 and 1010 courses.

**Formative Evaluation Methods:**

a. Statistical comparison between ENGL 1010 assessment papers for traditional classes and pilot classes  
b. Statistical comparison of pass/fail rates of traditional classes and pilot classes for LS Reading and Writing.

**Who is required to take the course?**

Students who score between 15 and 18 on the ACT (or equivalent) will be advised to enroll in the piloted sections.

**Collaborative Submission:**

NA
Course: MATH 1530  
Other:  
Past Student Headcount: 984  
ABC%: 72  
Description: 

Currently, Math 1530 - Applied Statistics is most frequently taught using a traditional lecture method. Faculty will lecture on the content and assign homework problems from the textbook or from the corresponding on-line homework system. The textbook is quite traditional in nature: Text explanation, examples, and corresponding homework problems.

The revitalized course is a large-scale change for incorporating active learning into all MATH 1530 and MATH 1530-K courses at MTSU, affecting around 1000 students each year. A group of five MTSU faculty are already working hard toward this goal. First, with the support of an internal MTSU Instructional Technology award, the group developed and tested one active learning lesson module in a MATH 1530 course. Currently, with the support of a National Science Foundation (NSF) Transforming Undergraduate Education in STEM (TUES) Type I Curriculum Development Grant (2.5 years, $175K) called Modules for Teaching Statistics with Pedagogies using Active Learning (MTStatPAL), this team is developing and testing a package of ten technology-facilitated learning materials (modules) designed to help instructors effectively use active learning to teach important and difficult concepts in introductory statistics. Each of the 10 modules in the MTStatPAL collection will include the following:

• An In-class Activity used during class to help students gain a strong understanding of the statistical concept through an active learning process.

• A Pre-class or Post-class Independent Task to be used outside of class by students. If the task is a pre-class activity, it helps ensure that each student is prepared to effectively engage in the class activity. If the task is a post-class activity, it reviews and builds upon the new concepts learned during the class activity.

• A Teacher Guide that includes the description and script of the activity and video segments of an experienced professor completing the activity with a class of students. This will serve to help the teacher to prepare for the in-class activity and to recognize and overcome any potential difficulties. Other more typical instructor materials will be included as well; such as, a solution guide, a quick question and response exercise included with the activity, and a teacher tip sheet.

• A Post-activity Check-up to assess the effectiveness of the module in promoting student learning, which will incorporate specially designed questions inserted into the end-of-unit examination to test students’ conceptual knowledge.

To date, we have developed modules for statistical significance, regression, probability models, binomial distribution, confidence intervals, hypothesis testing, and selecting the appropriate test. (The materials are available on our project website: www.mtstatpal.com.) Our team will complete three additional modules as part of the MTStatPAL project this summer. However, during the implementation of these modules, we learned that helping the teachers make this transition to using active learning and allowing students to develop knowledge through student-to-student conversations takes more than just a collection of materials. Each teacher is different and may need different things to help make this transition, but in some cases it takes a change in beliefs. We are also developing a MATH 1530 Course Community to help facilitate the readiness to change the way MATH 1530 is taught to foster effective team-based learning with actively engaged students having rich statistical conversations, as opposed to students sitting in isolation taking notes about abstract concepts. We have met three times in the Fall 2014 semester with all the instructors of MATH 1530 and MATH 1530K courses at MTSU. We had an exceptional turn-out, response, and eagerness to engage in improving the teaching of MATH 1530, Applied Statistics.
For this TBR Course Revitalization proposal, we are requesting funding to help us take the final steps to make the large scale change happen effectively. In particular, we need to develop a teacher training guide for effectively using active learning with groups where high level student-to-student conversations about statistical concepts and applications are the classroom norms. This training guide would be used with our MATH 1530 teachers at the beginning of and throughout the semester. Additionally, it would also include the specifics associated with teaching MATH 1530 using the MTStatPAL modules. This instructor active learning training manual was NOT a part of the NSF TUES grant proposal, but the need for such an instructor’s manual has become apparent in our class testing phase of the project.

We have also learned that we will need to develop a complete workbook for the students which incorporates all the materials that would be used throughout the semester. This was also not part of our NSF TUES grant project. It will have the instructions for the pre-class activities, a place to take notes from the videos they watch, and a place to record questions that are unanswered. This workbook would also include the in-class activities handouts and the follow-up post class activities to reinforce the learning. Right now, the teachers have to make copies of the parts of the lessons they will use in class. Because of all the pieces to each module, it can be a daunting task. We have found an example of an effective workbook to foster group work in biology by MTSU faculty member Dr. Michael Rutledge, which we can use as a model. We have enough of the MTStatPAL materials in place to make the development of the student workbook possible during the Summer 2015 time period so that it will be ready for use in the Fall 2015 semester. However, through our work on this project, we have become concerned about ensuring student retention of concepts. As such, we will add some additional features to the workbook that are not part of the NSF TUES grant project. This workbook will be something that the students would bring with them each day to class and it will incorporate a “classroom openers” and/or “classroom closers” for each class period. In order to help make the students’ learning more efficient during class time, we will provide a brief “preview” of the concepts for the day that students can do while they are waiting for class to start. From that preview the students must write two questions they expect to be answered about the concepts during the class. They will also be provided with a “review” question or two which would be connected to the concept of the day. For example, if students were going to be learning about hypothesis testing for proportions, they might be asked to solve a problem using the central limit theorem for proportions. Or on the day they were learning about the central limit theorem for proportions, they might have review questions about the binomial distribution’s mean and standard deviation. These daily preview/preview items would require new development to have these for each day of class. However, this repetition could make a large difference for developing long-term student learning.

**Academic Problem:**

The academic issues for MATH 1530, Applied Statistics are two-fold. 1) Students need to be engaged in the material in the course in an active manner and not passively through a lecture format. 2) The faculty that are part of the MTStatPAL want to move the statistical content to a new cognitive level. Currently much of the teaching and learning in introductory statistics is on the lowest levels of Bloom’s taxonomy – mainly knowing with a little understanding. We would like to move the students’ statistical processing to application, analysis, synthesis, and evaluation. With the use of the instructor manual and the student workbook being proposed for this project, combined with the MTStatPAL project team’s commitment to change, and the MATH 1530 Course Community Involvement we feel confident that we would be able to meet both of these objectives.


**Explain how the revitalized course will enhance student learning and improve student success:** We have collected initial data from pre-and post-tests of our pilot phase of development, which indicate that student learning of the statistical concepts of the module topics is the same or better using the MTStatPAL modules than the traditional course materials and teaching methods for nearly every concept tested thus far. (Some of the student successes
are found in Gerstenschlager et. al., 2013, and some of the faculty results are found in Strayer et. al., 2014.) Thus by adding the use of the instructor manual, the instructor professional development throughout the semester, and the new student workbook being proposed for this project, we feel confident that we will improving student learning and student success in applied statistics not only for this course, but also for them to use in their major discipline and in their lives.


Pilot Phase and objectives:

The MTStatPAL project team is actually already in the pilot phase of our project to develop materials for using active learning in MATH 1530. Our pilot phase has multiple steps: 1) the project team develops a learning module and the corresponding instructor materials; 2) one or more faculty from the project team test the module as they teach the MATH 1530 course and other members of the project team observe the lesson; 3) revisions are made to the module based on the project team’s feedback and the student feedback; 4) the revised module is used in a MATH 1530 course which is taught by an instructor who is not on the project team; 5) project team members observe the instructor teach using the module; 6) student and instructor feedback is used to make modifications to the module. Recall that each module includes the following student materials: an electronic pre/post out-of-class activity, an in-class activity, and additional practice problems for the students; and includes the following instructor materials: a video of an experienced faculty member teaching the module, an instructor tip sheet, a script for teaching with the materials in class, corresponding assessment questions, the solutions to the student materials.

The objective of the pilot stage is to develop and test the module materials. The MTStatPAL team has been working on that phase for about two years and will finish developing enough modules for the MATH 1530 course this summer. With the help of this proposal, we are ready to develop the needed student workbook and teacher manual to make the large scale implementation of the materials at MTSU.

Project Steps:

As part of our pilot phase we have learned that we are ready to make a large scale change to all of the MATH 1530 courses. We are using support from the NSF TUES grant to develop the materials. The steps remaining that are NOT funded by the NSF TUES grant and for which we are asking for funds from TBR are to be completed on the following schedule:

Summer 2015

a) Develop a detailed instructor’s manual which not only includes extensive materials from using the MTStatPAL materials, but also includes professional development materials for effectively using active learning, group work and rich student-to-student conversations to improve student learning of statistical concepts.

b) Develop a student workbook for daily use which includes the details of the MTStatPAL modules, as well as brief daily preview/review activities/problems to help develop long-term learning and build connections between statistical concepts. This workbook will be printed by MTSU’s Printing Services and sold in the bookstore at a minimal cost.

Fall 2015

Two teachers who are teaching two sections of MATH 1530 will be asked to teach MATH 1530 course using the new materials and their traditional teaching methods. The evaluation methods described below will be used to assess the effectiveness of the materials. If any small changes need to be made to the manuals, they will be made
prior to the next printing. They will also participate in the teacher professional development led by the MTStatPAL team.

Spring 2016 – Full-scale implementation

All teachers of MATH 1530 will be asked to use the module materials and participate in the teacher training. If they did not participate in the Fall 2014 training they will be required to participate in it the spring to teach the course. If they participated in the training in the Fall 2014, the training will be optional. This implementation will be the focus of the MATH 1530 Course Community monthly meetings during that semester.

May 2016

The data will be analyzed and a final report will be written from the implementation. Additionally, the results will be prepared for publication and presentation at regional and national venues. The project team is committed to presenting and publishing results.

Formative Evaluation Methods:

We will have classroom observations to help us measure the effectiveness of the course-delivery method. We have developed a protocol for these observations and a corresponding rubric. The project team has been trained on using this rubric. We will also have a pre-test for all students taking MATH 1530 in the Fall 2015 semester and a common final. We will be able to make a comparison of the students who use the MTStatPAL materials and those who did not. We will also conduct pre and post interviews with the faculty teaching with the modules in the Fall 2015 semester.

Who is required to take the course?

MATH 1530 is a general education course taken by a wide range of students at MTSU. The students taking the course include majors in biology, nursing, speech pathology/audiology, engineering technology, pre-dental, pre-pharmacy, health, exercise science, speech, etc.

Collaborative Submission:

No, this redesign is not part of any other TBR collaborative. The proposed work for this project is also unique from the work for the NSF TUES grant which is being used to help develop and class test ten modules which would be used in the course redesign.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: ENGR 2110
Past Student Headcount: 99   ABC%: 77.8

Description:

The revitalization will be utilized in foundation Engineering courses. These courses are ENGR 2110: Statics, ENGR 2120: Dynamics, and ENGR 3560: Mechanics of Materials. The instructors will implement a flip classroom technique to enhance student learning experience. A flipped classroom technique is opposite to a traditional classroom teaching method in that lectures will be delivered online and homework is moved from home to classroom. Our revitalized courses will differ from a traditional in-class and a complete online course in the following ways: (1) Lectures will be summarized in 15-20 minute videos that include important concepts from the chapter/topic, one/two worked examples, and 3-4 homework/practice problems. These synopsis video lectures will be made available to students 3 days in advance so that students can learn and come prepared to the lectures/problem sessions. The lecture time will be devoted to reciting the key concepts, working problems in class and identifying the important homework/practice problems with real world examples. The summary video will help instructors spend more time on working out the problems and examples in class. (2) The summary video can also help students who want to review the material covered in class at home and practice. Also, it will be available for students who might miss a class to go back and review what was covered in class and come prepared for the next lecture. (3) The concept is different from a traditional all-online course which provides videos of full lectures online and does not provide opportunities for students to interact with the instructors and peers in class. As explained earlier, the summarized lecture will be available before and after classroom lectures. Instructors will spend more time on working problems and quizzes inside classroom lectures. (4) Instructors will also utilize Desire to Learn (D2L) online course management tool in order to upload the videos and assign practice problems for enhanced student learning experience.

Academic Problem:

Students struggle with engineering foundation courses due to a number of reasons shown below:

1. A prerequisite or corequisite requirement is not met in special cases, time lag between their MATH courses and Engineering courses, and lack of practice.
2. Students always ask for tutoring and hands-on help with courses.
3. All students do not learn at the same pace; hence, some students need extra time to go over the concepts and work solutions for problems.
4. In a class of 30-50 students, it becomes impossible for the instructor to reduce or increase pace of teaching.
5. If students want to review the lecture, they have to rely on their class notes, self-study or on their tutors.
6. An average undergraduate student takes 12-18 credits per semester and has to spend time studying for other courses. Hence, it will help students immensely if course material could be reviewed at their own convenience.

Explain how the revitalized course will enhance student learning and improve student success: The revitalized courses will facilitate enhanced student learning in the following ways:

1. Students will come prepared to classes already knowing key important concepts to learn and work on.
2. Short videos will help students recite the materials instead of spending 1-2 hours on detailed online lectures.

3. Evaluation results using quizzes will help instructors improve the teaching practices.

4. Students missing some lectures due to unavoidable circumstances can review the material covered in the classroom and spend more time on solving problems.

5. Classroom experience will be highly interactive since students will be better prepared.

6. D2L tools along with Panopto feature will help students spend as much time as they want at home on some of the more difficult concepts and problems at their own pace. Panopto is currently used by the College of Business to offer online lectures that are highly interactive with videos, slides and student presentations. We plan to use this tool to record summary videos and post them along with practice problems on D2L. This will also make instructors better understand if they need to spend more time on a particular topic in classroom. Contact time in classroom will be focused on deeper understanding of concepts, their working and problem solving in highly interactive manner.

7. This pilot program will increase contact time between instructors and students; thus, enhancing students’ learning experience.

8. Students will stay engaged in class as they are quizzed on the material covered in the summary video.

9. Students will have more control over learning as they can review online materials as many times as they need. Hence, an online synopsis of lecture will make sure that NO one is left behind and reach every student in the class.

10. This proposal will not only improve student learning experience but also increase the percentage of ABC grades in the course. Most importantly, it will give students freedom of learning at their own pace.

Pilot Phase and objectives:

The pilot phase will consist of implementing the flip classroom concept to one course ENGR 2110: Statics for monitoring the progress of students to evaluate the benefits of this pilot phase. After ironing out the problems, finding solutions and evaluating the success of the pilot phase; this technique will be extended to two other courses viz. ENGR 2120: Dynamics and ENGR 3560: Mechanics of Materials.

Project objectives:

1. Enhance student learning experience by using a flip classroom technique

2. Design and development of student-friendly lecture format which is highly interactive and efficient

3. Improvement in the teaching practices based upon evaluations and feedback received from students

Project Steps:

1. Design and develop videos that would summarize each lecture.

2. Post these videos in advance so that students can review and learn key concepts before the come to class.

3. Design and develop quizzes based upon videos in order to identify if students used this facility and to what extent.

4. Analyze performance of students based upon evaluations of quizzes.

5. Seek feedback from students on the content and quality of the online summary lectures.
6. Review and revise the content of videos as needed for improved student learning.

7. Prepare and submit final report for course revitalization.

**Formative Evaluation Methods:**

1. Students will be asked to provide feedback on the new teaching methods twice during the semester so that improvements can be implemented during the semester.

2. Traditional feedback form for MTSU will be used to measure the effectiveness of the course delivery. This includes presentation ability, course organization and clarity, assignments and grading, intellectual and scholarly approach, incorporation of student interaction, motivation of students and effectiveness and worth.

3. Instructor feedback and comparison of student performance to traditional teaching methods will also be recorded and analyzed in the pilot phase.

**Who is required to take the course?**

Students in Mechatronic Engineering and Mechanical Engineering Technology are required to take all three courses (Statics, Dynamics, and Mechanics of Materials). Students in Electromechanical Engineering Technology are required to take two of the three courses (Dynamics and Mechanics of Materials). Approximate number of students affected by the pilot study for Statics course will be 100 per year. Annual enrollment chart for Statics course has been provided in the additional documents to this proposal.

**Collaborative Submission:**

N/A
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: MATH1730
Past Student Headcount: 1073    ABC%: 68

Description:

In traditionally taught precalculus courses, students sit in rows watching the instructor describe concepts and solve mathematics problems at the front of the room. This passive learning style teaches students to recognize different problem types and memorize the steps to get correct answers without connecting these types and steps to deeper mathematical structure. Research has shown that students who are not given the opportunity to make conceptual connections have difficulty passing precalculus and succeeding in calculus. Precalculus revitalization at MTSU stands in stark contrast to this traditional approach. The revitalized approach uses the Pathways to Calculus materials, developed at Arizona State University and rooted in the mathematics education research base, which are proven effective at improving student success in calculus. In the revitalized format, students are active participants in the learning process, developing conceptual connections and mathematical understanding through small group exploration, individual reflection, and the critiquing of other students’ work.

Academic Problem:

At MTSU, we have piloted courses using the Pathways to Calculus materials in the Spring and Fall semesters of 2014. Pre- and post-testing with well-vetted instruments shows the pilot has already borne fruit. Students in the revitalized sections exhibited improvement in learning essential precalculus concepts compared to students in the traditional courses. However, students at MTSU are not the same as students at Arizona State University where the materials were developed. Indeed, two persistent instructional problems threaten the success of the MTSU revitalization: (1) the need for a concise, self-paced means of algebra skill remediation, and (2) the need for pedagogical tools that help students learn how to explore, reflect on, and critique mathematics.

Explain how the revitalized course will enhance student learning and improve student success: Unless students are conversant in algebra, and unless they are equipped with the thinking skills required to constructively explore mathematical concepts, objectively reflect on their own work, and productively critique the work of others, they cannot become proficient problem solvers. Future academic success and retention in STEM therefore demands that these skills be developed, and the sequential nature of STEM requires that they be addressed in gateway courses like precalculus. Regardless of the promising start for the precalculus revitalization at MTSU, we will only realize long-term success when these skills are addressed in a way that is accessible to all MTSU faculty and students associated with the course. The revitalization efforts supported by this grant will help to ensure long-term gains in student learning and improved student success in MATH1730 at MTSU.

Pilot Phase and objectives:

In this project, we are seeking to pilot efforts to address the two critical needs mentioned above. First, we will develop, bundle, and disseminate to instructors a packet of materials (problem sets, instructional videos, and quizzes) that help students develop the algebra skills specifically needed for success in MATH1730. Second, we will develop, create, bundle, and disseminate to instructors a packet of flipped classroom videos that will help students begin their explorations on Pathways investigations before they come to class. We call these “kick-starter” videos. Both of these packets will be organized so that instructors can readily incorporate them into their precalculus course.

Project Steps:

Here are the steps necessary to complete this project:
a) Identify algebra skills for students to master and group them into 5 – 10 units.
b) Create problem sets for students to practice skills and quizzes to assess their skills.
c) Create videos to help students learn and practice skills.
d) Create a packet of materials to disseminate to instructors who will use the algebra remediation.
e) Identify the key Pathways investigations with which students most need help beginning their exploration (20 - 30 investigations).
f) Create 2-3 minute “kick-starter” videos for that will introduce each of the 20-30 investigations to students and get them started exploring and reflecting on their own.
g) Create a packet of materials to disseminate to instructors who will use the “kick-starter” instructional videos.

Formative Evaluation Methods:
First, we will measure student algebra learning using algebra pre- and post-tests. Second, we will measure student learning of conceptual understanding using the Precalculus Concept Assessment as a pre-test and post-test.

Who is required to take the course?
Students who wish to take Calculus I but who earned less than 26 on the ACT must take MATH1730. Also, some majors such as Psychology and Concrete Industry Management recommend that students take MATH1730 to meet their mathematics requirement. Each year, approximately 1,000 students take MATH1730 at MTSU.

Collaborative Submission:
2015-2016 TBR Course Revitalization Project Summary

Course: SPCH 1010
Other: ENGL 1010
Past Student Headcount:1273     ABC%: 81

Description:
ENGL 1010 and SPCH 1010 are both gateway courses under the Communication heading of the General Education core curriculum. Many institutions around the state require or recommend that English Composition be completed prior to Fundamentals of Speech Communication in order for students to acquire skills in researching, supporting, and organizing ideas. The result is that students must spend an entire year to meet the Communication requirements of the core curriculum. In reality, many students delay completing the Speech course until later due to anxiety and thus dilute their practice and competency in some of those prerequisite skills covered in English Composition I.

The purpose of this initiative is to allow students to complete both basic communication courses (English Composition I and Fundamentals of Speech Communication) in one semester while emphasizing the connection between the two courses. The initiative will utilize innovative scheduling, team teaching, common terminology, and synchronized assignments to emphasize and reinforce the skills common to both courses.

A hybrid model will be utilized in order to facilitate completion of both courses in one semester. The two courses will share a Tuesday/Thursday time slot with the English meeting on Tuesdays and the Speech course meeting on Thursdays. Students will complete additional online work in each course. Such scheduling and shared curriculum design will allow students to transcend the logistical barriers associated with the traditional ENGL 1010 and SPCH 1010 models and provide them with both content reinforcement and increased speed to graduation.

Academic Problem:

Although the hybrid methodology will be utilized, the initiative proposes sharing much more than a time slot. The interaction between faculty members will allow them to share expertise in their respective disciplines and to strengthen and reinforce the concepts common to both disciplines. Such interaction will help to remedy the most significant problem plaguing students of these courses: an inability to transfer skills.

During the first half of ENGL 1010, students are given instruction in organizing and developing ideas and arguments. During the first half of SPCH 1010, students utilize basic writing skills in reflection exercises to apply interpersonal communication skills. This initiative will enable English instructors to assist Speech instructors in the creation, execution, and evaluation of writing assignments that reinforce these basic writing skills. Students complete oral presentations during the second half of both courses. This initiative will allow Speech instructors to assist English instructors in the creation, execution, and evaluation of speaking assignments, focusing particularly on dealing with speech anxiety and effective delivery. The shared time slot will facilitate team teaching of these shared concepts.

Explain how the revitalized course will enhance student learning and improve student success: Rather than relying on the promise of future utilization of the prerequisite skills, students will be able to experience the immediate utilization of these basic skills in both written and spoken communication. The reinforcement of shared concepts between the two courses will enhance student motivation and strengthen student learning. An additional benefit is the increased speed to graduation created by the simultaneous scheduling and the conversion of the course prerequisite to corequisite.

Pilot Phase and objectives:
Instructors will collaborate to synchronize and coordinate content for the ENGL1010/SPCH1010 linked courses. A collaboration will also occur with the registrar’s office to ensure appropriate registration restrictions are in place and with marketing to ensure that information about the linked courses is made available to students.

Fall 2014  The linked courses (ENGL1010/SPCH1010) will be offered to students on a limited basis.

December 2014  The student success rate in the linked courses will be evaluated and compared to the control group of students taking the traditional ENGL1010/SPCH1010 offerings.

**Project Steps:**

a. Collaboration will take place between English and Speech instructors to synchronize the content between the two courses and to develop assignments and projects that require the synthesis of material from both courses.

b. Assistance will be required from the Registrar’s office in order to establish the appropriate registration requirements and to identify and target the desired student population.

c. Assistance will be required of marketing to ensure that the linked hybrid courses receive enough publicity to raise student awareness about the pilot offerings.

d. The professors will need to work with the Center for Distributed Education to convert and enhance the current ENGL 1010 and SPCH 1010 online offerings to meet the needs of the proposed linked hybrid courses.

e. Assistance will be required from Advising, encouraging students to take the two courses concurrently.

**Formative Evaluation Methods:**

Since summative evaluation focuses more heavily on product rather than process, the summative evaluation methods in both courses will include traditional culminating assignments such as essays, oral presentations, and mastery quizzes. Both courses will also utilize student surveys to gather data regarding student attitudes about the initiative. Additionally, students may be required to provide a reflection essay or reflection presentation regarding this same topic.

**Who is required to take the course?**

Since both courses are part of the General Education curriculum, both courses are required for students seeking to complete Associate and/or Bachelor degrees.

**Collaborative Submission:**

No
2015-2016 TBR Course Revitalization Project Summary

Course: MATH1010
Other:
Past Student Headcount: 408  ABC%: 72
Description:

Motlow State Community College will revitalize the collegiate mathematics course, MATH 1010, Mathematics for General Studies, a 3-credit course that has as a requirement for registration either an ACT score of 19 or higher in mathematics or successful completion of MATH 0810, Learning Support Math. MATH 1010 has no required lab component. Class time is devoted to lecture, discussion of concepts, and student attempts at completion of work. The revitalized section of MATH 1010 would include students who have not taken Learning Support Math (LSM) and have a Mathematics ACT score greater than or equal to 13 but ACT score less than 19 in addition to those students who have met standard registration requirements for the MATH 1010 course, ACT score 19 or above.

The revitalized section will have an additional requirement of co-requisite enrollment in MATH 0810 for those students with ACT mathematics score greater than or equal to 13 but less than 19. The MATH 0810 course will be taught by a dedicated LSM instructor, in close collaboration with the revitalized MATH 1010 instructor. As part of the co-requisite work, identified students will be required to complete successfully the 5 learning competencies of LSM as demonstrated by passing the 5 competency tests in the MATH 0810 course.

Through use of relevant and appropriate instructional examples the instructor of record for MATH 1010 will embed LSM content necessary for success in a standard MATH 1010 course. A significant component to the revitalized class would be extensive lesson planning necessary to incorporate LSM content necessary for successful completion of MATH 1010. To further support those students, the MATH 0810 content would be structured to provide timely correlation to the classroom lessons in MATH 1010. Essentially examples, applications and lesson materials that integrate LSM pre-requisite skills will be used in teaching MATH 1010 concepts.

This revitalized course stands in distinction from the traditional MATH 1010 course in that it would have a restructuring of the curriculum order, modification of instructional examples and timely intersection of MATH 0810 content areas. While all the concepts in MATH 1010 are deemed appropriate as college-level mathematics work, the concepts of the course can be better accessed by those with a designated mathematical deficiency (ACT <19) if the material is rearranged and ordered to build the concepts in conjunction with their corresponding work in MATH 0810.

Academic Problem:

This proposal addresses one academic problem by the removal of the mathematical deficiency pre-requisite course serving as a gateway to many courses, especially those in the sciences. The ability to enroll immediately in MATH 1010 rather than LSM alone would make the student eligible to enter into college level courses in other academic areas at an earlier time in his or her studies.

Less than 25% of students who enter college with a LS requirement will earn a certificate or degree within 8 years of initial enrollment. For those who qualify to take the revitalized course, the impediment and stigmatism of the Learning Support course would be removed. The required time frame in which a student can complete the required mathematics for his or her degree will be shortened.

The revitalized MATH 1010 will also change the pedagogical approach for teaching college-level mathematics by allowing instructors to engage students in more of a team approach and provide to students additional remediation when necessary.
Explain how the revitalized course will enhance student learning and improve student success: By combining the two distinct populations of students into one course (Learning Support students with collegiate-level students in MATH 1010), we reduce the perception of not being “college material” that Learning Support students often associate themselves with. We also gain models for success as college-level students’ model good academic behavior for the Learning Support students (how to take notes, how to engage in class discussion, etc.). Moreover, the Learning Support students should benefit greatly from the supplemental instruction via the 0810 instructor containing the corresponding content of the course which will provide them further assistance on the course assignments within 1010.

Student success should also improve because we will be eliminating exit points for the Learning Support students by creating a co-requisite model rather than a prerequisite model for the degree requirement. Currently, our Learning Support students must complete 0810 before entering 1010, and many take 2 semesters to do that—meaning they generally take 2-3 semesters to complete one college-level mathematics course.

Pilot Phase and objectives:

Our objectives during this phase will be to discover how successful Learning Support students will be in the college-level course: do they successfully complete assignments in both courses, are they likely to succeed in the MATH 1010 course, does the restructure of concepts in MATH 1010 adequately align the material with the 0810 students’ mathematical skill set, are they more or less likely to drop out of the courses than they had been in 0810, will the students continue to work for completion in 0810 when achieving success in 1010, etc.?

We will also use the pilot phase to ascertain difficulties associated with Banner in terms of how students register for the co-requisite courses and how we manage the two different caps in the courses.

The pilot phase for course revitalization will be one semester, and the course will be on the Smyrna campus. The courses, both 1010 and the co-requisite 0810, will be capped at 15 for traditional students and 15 for co-requisite students. Each group of traditional students for the respective courses will be comprised of the general student population.

The objective for the pilot phase is to see student success rate, as measured by percentage passing MATH 1010, for the newly included students to meet or exceed that of the standard student enrollment in MATH 1010. A second objective for the course will be to have a drop percentage among included students less than or equal to the drop rate for the traditional student in 1010. These percentages for success (72 %) and drop rate (6%) are taken from MSCC’s campus averages for traditional 1010 sections.

Project Steps:

- Identification and recruitment of eligible students
- Registration of identified students with clear explanation of revitalized course requirements to be provided prior to enrollment
- Lab time introduction of both Web Assign (for MATH 1010) and MyLabs (for LSM)
- Coordination of schedule to include one revitalized section of MATH 1010, capped at 15 traditional students and capped at 15 co-requisite students
- Implement a system of detailed communication between the 1010 instructor and 0810 instructor to keep abreast of students’ needs and accomplishments
- Instructor identification of LSM concepts that are requisite for successful completion of MATH 1010
- Data collection and analysis to measure and record student success
• Revise syllabi as appropriate, course materials, and D2L components for the co-requisite course

Formative Evaluation Methods:

We will create a Student Perception Questionnaire and perform a formal exit interview to be administered in both the co-requisite and traditional MATH 1010 and MATH 0810 courses and will compare results in order to gauge the effectiveness of both the co-requisite design of 0810/1010 and the re-ordered curriculum in 1010.

Who is required to take the course?

Students with an ACT sub-score in Mathematics less than or equal to 13 and less than 19 will be eligible to take the co-requisite MATH 1010 course in conjunction with the 0810 course. Equivalent Compass scores will apply.

Collaborative Submission:

No.
2015-2016 TBR Course Revitalization Project Summary

Course: MATH1010

Description:

Motlow State Community College will revitalize the collegiate mathematics course, MATH 1010, Mathematics for General Studies, a 3-credit course that has as a requirement for registration either an ACT score of 19 or higher in mathematics or successful completion of MATH 0810, Learning Support Math. MATH 1010 has no required lab component. Class time is devoted to lecture, discussion of concepts, and student attempts at completion of work. The revitalized section of MATH 1010 would include students who have not taken Learning Support Math (LSM) and have a Mathematics ACT score greater than (> 13 but less than (<) 19 in addition to those students who have met standard registration requirements for the MATH 1010 course, ACT score greater then 19.

The revitalized section will have an additional requirement of co-requisite enrollment in MATH 0810 for those students with ACT mathematics score >13 but <19. The MATH 0810 course will be taught by a dedicated LSM instructor, in close collaboration with the revitalized MATH 1010 instructor. As part of the co-requisite work, identified students will be required to successfully complete the 5 learning competencies of LSM as demonstrated by passing the 5 competency tests in the MATH 0810 course.

Through use of relevant and appropriate instructional examples, the instructor of record for MATH 1010 will embed LSM content necessary for success in a standard MATH 1010 course. A significant component to the revitalized class would be extensive lesson planning that would incorporate LSM content necessary for successful completion of MATH 1010. To further support those students, the MATH 0810 content would be structured to provide timely correlation to the classroom lessons in MATH 1010. Essentially examples, applications and lesson materials that integrate LSM pre-requisite skills will be used in teaching MATH 1010 concepts.

This revitalized course stands in distinction from the traditional MATH 1010 course in that it would have a restructuring of the curriculum order, modification of instructional examples, faculty dedicated office hour time for co-requisite students, faculty led remediation sessions independent of scheduled 0810 and 1010 class meetings and timely intersection of MATH 0810 content areas. While all the concepts in MATH 1010 are deemed appropriate as college-level mathematics work, the concepts of the course can be better accessed by those with a designated mathematical deficiency (ACT <19) if the material is rearranged and ordered to build the concepts in conjunction with their corresponding work in MATH 0810.

Academic Problem:

In addition to addressing the need for students to gain the foundational algebraic skills necessary to be successful in collegiate level mathematics (including reading, writing and critical thinking in the subject area), this proposal addresses one academic problem, that of the required stand-alone LSM course, by the removal of the mathematical deficiency pre-requisite course serving as a gateway to many courses, especially those in the sciences. The ability to enroll immediately in MATH 1010 rather than LSM alone would offer the student eligibility to enter into college level courses in other academic areas at an earlier time in his or her studies.

Less than 25% of students who enter college with a LS requirement will earn a certificate or degree within 8 years of initial enrollment. For those who qualify to take the revitalized course, the impediment and stigmatism of the Learning Support course would be removed. The required time frame in which a student can complete the required mathematics for his or her degree will be shortened.

The revitalized MATH 1010 will also change the pedagogical approach for teaching college-level mathematics by allowing instructors to engage students in more of a team approach and provide to students additional
remediation when necessary. It will provide a structure of support for students both during dedicated class meetings and outside class meeting time.

**Explain how the revitalized course will enhance student learning and improve student success:** By combining the two distinct populations of students into one course (Learning Support students with collegiate-level students in MATH 1010), we reduce the perception of not being “college material” or ‘college ready” that Learning Support students often associate with and classify themselves. Co-requisite students will also gain models for success as college-level students’ model good academic behavior for the Learning Support students (how to take notes, how to engage in class discussion, etc.). Moreover, the Learning Support students should benefit greatly from the supplemental instruction via the 0810 instructor containing the corresponding content of the course which will provide them further assistance on the course assignments within 1010.

In accordance with pilot results throughout the state, it is expected that student success should also improve due to the elimination of exit points for the Learning Support students through the creation of a co-requisite model rather than a prerequisite model for the degree requirement. Currently, our Learning Support students must complete 0810 before entering 1010, and many take 2 semesters to accomplish this goal; hence, when beginning one’s college career with 0810 it generally takes 2-3 semesters to complete one college-level mathematics course.

**Pilot Phase and objectives:**

Our objectives during this phase will be to discover how successful Learning Support students will be in the college-level course: do they successfully complete assignments in both courses, are they likely to succeed in the MATH 1010 course, does the restructure of concepts in MATH 1010 adequately align the material with the 0810 students’ mathematical skill set, are they more or less likely to drop out of the courses than they had been in 0810, will the students continue to work for completion in 0810 when achieving success in 1010, etc.?

We will also use the pilot phase to ascertain difficulties associated with Banner in terms of how students register for the co-requisite courses and how we manage the two different caps in the courses.

The pilot phase for course revitalization will begin Spring 2015 and will be piloted on the Smyrna campus. The courses, both 1010 and the co-requisite 0810, will be capped at 30; 15 for traditional students and 15 for co-requisite students. Each group of traditional students for the respective courses will be comprised of the general student population.

The objective for the pilot phase is to see student success rate, as measured by percentage passing the course, for the newly included students to meet or exceed that of the standard student enrollment in MATH 1010. A second objective for the course will be to have a drop percentage among included students less than or equal to the drop rate for the traditional student in 1010. These percentages for success (72%) and drop rate (6%) are taken from MSCC's campus averages for traditional 1010 sections.

**Project Steps:**

- Identification and recruitment of eligible students
- Registration of identified students with clear explanation of revitalized course requirements to be provided prior to enrollment
- Lab time introduction of both Web Assign (for MATH 1010) and MyLab (for LSM) at semester’s outset
- Coordination of schedule to include one revitalized section of MATH 1010, capped at 15 traditional students and capped at 15 co-requisite students
- Implement a system of detailed communication between the 1010 instructor and 0810 instructor to keep abreast of students’ needs and accomplishments
• Instructor identification of LSM concepts that are requisite for successful completion of MATH 1010
• Data collection and analysis to measure and record student success
• Create a syllabus, course materials, and D2L components for the co-requisite course
• Revise the MSCC Catalog to reflect the new course and identify the student population it is designed to serve

**Formative Evaluation Methods:**

We will create a Student Perception Questionnaire and perform a formal exit interview to be administered in both the co-requisite and traditional MATH 1010 and MATH 0810 courses and will compare results in order to gauge the effectiveness of both the co-requisite design of 0810/1010 and the re-ordered curriculum in 1010. A final exam consistent with previous semesters will be utilized for the MATH 1010 final exam and results subsequently compared.

**Who is required to take the course?**

Students with an ACT sub-score in Mathematics >13 while <19 will be eligible to take the co-requisite MATH 1010 course in conjunction with the 0810 course. Equivalent Compass scores will apply.

We are estimating that we will have 17 sections of MATH 1010 across our 4 campuses with approximately 25 students in each section. This will include both traditional 1010 students and previously LS exclusive students.

**Collaborative Submission:**

No
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: Math 1003
Past Student Headcount: 116 ABC%: 60.5

Description:
Motlow State Community College will revitalize the collegiate mathematics course, MATH 1003, Intermediate Algebra, a 3-credit course that has as a requirement for registration successful completion of MATH 0810, Learning Support Math. MATH 1003 has no required lab component. Class time is devoted to lecture, discussion of concepts, and student attempts at completion of work. The revitalized section of MATH 1003 would include students who have not taken Learning Support Math (LSM) and have a Mathematics ACT score greater than (>\text{13}) but less than (<\text{19}) in addition to those students who have already met standard registration requirements for the MATH 1003 course by completion of MATH 0810. After full implementation of co-requisite courses in Fall 2015, there may be students who complete 0810 as a co-requisite with either 1010 or 1530 but who wish to change to a STEM major that would necessitate completion of MATH 1003. Theses students would increase the anticipated population of the co-requisite 0810/1003 course beyond those students who need LSM and are intended STEM majors from the outset of their studies.

The revitalized section will have an additional requirement of co-requisite enrollment in MATH 0810 for those students with ACT mathematics score >13 but <19. A dedicated LSM instructor will teach MATH 0810 course in close collaboration with the revitalized MATH 1003 instructor. As part of the co-requisite work, identified students will be required to successfully complete the 5 learning competencies of LSM as demonstrated by passing the 5 competency tests in the MATH 0810 course.

Through use of relevant and appropriate instructional examples, the instructor of record for MATH 1003 will embed LSM content necessary for success in a standard MATH 1003 course. A significant component to the revitalized class would be extensive lesson planning that would incorporate LSM content necessary for successful completion of MATH 1003. To further support those students, the MATH 0810 content would be structured to provide timely correlation to the classroom lessons in MATH 1003. Essentially examples, applications and lesson materials that integrate LSM pre-requisite skills will be used in teaching MATH 1003 concepts.

This revitalized course stands in distinction from the traditional MATH 1003 course in that it would have a restructuring of the curriculum order, modification of instructional examples, faculty dedicated office hour time for co-requisite students, and timely intersection of MATH 0810 content areas. The concepts of the MATH 1003 course can be better accessed by those who have not yet completed 0810 if the material is rearranged and ordered to build the concepts in conjunction with their corresponding work in the co-requisite MATH 0810.

Academic Problem:
This proposal addresses first the academic problem caused by the required stand-alone LSM course; namely, students who will need MATH 0810 and MATH 1003 before beginning degree required mathematics cannot complete their program within a two-year timeframe. The ability to enroll immediately in MATH 1003 rather than LSM alone would offer the student eligibility to enter into college level courses in mathematics and other academic areas at an earlier time in his or her studies. This would encourage students to pursue STEM programs of studies, especially those that require Calculus I because students who complete the co-requisite 0810/1003 in the fall could then enter 1710 in the spring. The following year the students could complete 1720 and then 1910 to finish their mathematics degree requirements.

Less than 25% of students who enter college with a LS requirement will earn a certificate or degree within 8 years of initial enrollment. For those who qualify to take the revitalized course, the impediment and stigmatism of the Learning Support course would be removed. Students who typically enroll in MATH 1003 are those who need
MATH 1710, College Algebra/Pre-Calculus I. These students are primarily those in a STEM major (science, technology, engineering and mathematics), although non-STEM majors may also use MATH 1710 to meet general education degree requirements, and MATH 0180 and MATH 1003 are needed by many of those students. The required time frame in which a student can complete the required mathematics for his or her degree will be shortened.

The revitalized MATH 1003 will also change the pedagogical approach for teaching college-level mathematics by allowing instructors to engage students in more of a team approach and provide to students additional remediation when necessary. It will provide a structure of support for students both during dedicated class meetings and outside class meeting time, during dedicated office hours for example.

Explain how the revitalized course will enhance student learning and improve student success: By combining the two distinct populations of students into one course (Learning Support students with those in MATH 1003), we reduce the perception of not being “college material” or ‘college ready” that Learning Support students often associate with and self-classify. Co-requisite students will also gain models for success as college-level students’ model good academic behavior for the Learning Support students (how to take notes, how to engage in class discussion, etc.). Moreover, the Learning Support students should benefit greatly from the supplemental instruction via the 0810 instructor containing the corresponding content of the course, which will provide them further assistance on the course assignments within 1003.

In accordance with pilot results throughout the state, it is expected that student success should also improve due to the elimination of exit points for the Learning Support students through the creation of a co-requisite model rather than a prerequisite model for the degree requirement. Currently, our Learning Support students must complete 0810 before entering 1003, and many take 2 semesters to accomplish this goal; hence, when beginning one’s college career with 0810 it generally take 2-3 semesters to complete.

Students needing Calculus I as part of a degree program (STEM majors and many UT transfer majors) who begin with MATH 0810 need at least 5 semesters to complete their mathematics work (MATH 0810, MATH 1003, MATH 1710, MATH 1720, MATH 1910). By offering MATH 0810 and MATH 1003 as co-requisite courses, students would be able to successfully complete through Calculus I in a two-year plan of studies.

Pilot Phase and objectives:

Our objectives during this phase will be to discover how successful Learning Support students will be in the MATH 1003 course: do they successfully complete assignments in both courses, are they likely to succeed in the MATH 1003 course, does the restructure of concepts in MATH 1003 adequately align the material with the 0810 students’ mathematical skill set, are they more or less likely to drop out of the courses than they had been in 0810, will the students continue to work for completion in 0810 when achieving success in 1003, etc.?

We will also use the pilot phase to ascertain difficulties associated with Banner in terms of how students register for the co-requisite courses and how we manage the two different caps in the courses.

The pilot phase for course revitalization will be one semester and the course will be available to students on all MSCC campus. The courses, both 1003 and the co-requisite 0810, will be capped at 15 for traditional students and 15 for co-requisite students. Each group of traditional students for the respective courses will be comprised of the general student population.

The objective for the pilot phase is to see student success rate, as measured by percentage passing the course, for the newly included students to meet or exceed that of the standard student enrollment in MATH 1003. A second objective for the course will be to have a drop percentage among included students less than or equal to the drop rate for the traditional student in 1003. These percentages for success (62%) and drop rate (11%) are taken from MSCC’s campus averages for traditional 1003 sections.
**Project Steps:**

- Identification and recruitment of eligible students
- Registration of identified students with clear explanation of revitalized course requirements to be provided prior to enrollment
- Lab time introduction of MyLabs at semester’s outset
- Coordination of schedule to include one revitalized section of MATH 1003, capped at 15 traditional students and capped at 15 co-requisite students
- Implement a system of detailed communication between the 1003 instructor and 0810 instructor to keep abreast of students’ needs and accomplishments
- Instructor identification of LSM concepts that are requisite for successful completion of MATH 1003
- Data collection and analysis to measure and record student success
- Create a syllabus
- Create course materials, including homework, quizzes, tests, handouts, etc.
- Create D2L components for the co-requisite course
- Revise the MSCC Catalog to reflect the new course and identify the student population it is designed to serve

**Formative Evaluation Methods:**

We will create a Student Perception Questionnaire and perform a formal exit interview to be administered in both the co-requisite and traditional MATH 1003 and MATH 0810 courses and will compare results in order to gauge the effectiveness of both the co-requisite design of 0810/1003 and the re-ordered curriculum in 1003

**Who is required to take the course?**

Students with an ACT sub-score in Mathematics >13 while <19 will be eligible to take the co-requisite MATH 1003 course in conjunction with the 0810 course. Equivalent Compass scores will apply. We anticipate enrollment in the co-requisite MATH 1003 courses to be primarily made of those students who will need MATH 1710, College Algebra/Pre-Calculus, as part of their degree plan.

We are estimating that we will have multiple sections of MATH 1003 across our 4 campuses with approximately 90-100 students enrolled in total (based on last year’s MATH 1003 enrollment). This will include both traditional 1003 students and previously LS exclusive students.

**Collaborative Submission:**

No
2015-2016 TBR Course Revitalization Project Summary

**Course: Other**

**Other: Math 1030**

**Past Student Headcount:** 1458  **ABC%:** 54.5

**Description:**

The Chattanooga State Math Department will create Math 1030 (Introduction to College Mathematics) as a bridge course for students placing below college-level math who need algebra-intensive courses like Pre-Calculus (Math 1710) or College Algebra (Math 1130). This includes STEM majors and business majors. The course will serve to prepare students for more algebra intensive courses.

Currently, students whose placement level is below college-level math are required to complete all of the TBR Learning Support Math Competencies in Math 0810/0820 before they are eligible to enroll in any college-level mathematics course, including Math 1710 (Pre-Calculus 1) and Math 1130 (College Algebra). We have found that the TBR Learning Support Math Competencies do not include enough algebra foundation for students to be successful in Pre-Calculus or College Algebra. Through the creation of Math 1030, we hope to build stronger algebra skills in students before they enter Pre-Calculus or College Algebra. Under the co-requisite model at Chattanooga State, students who are not at college-level math will enroll in Math 0030 and Math 1030 concurrently. Math 0030 will satisfy the TBR Math Learning Competencies while also providing just-in-time support for Math 1030. Having the experience of more algebra before enrolling in algebra-intensive courses such as Pre-Calculus or College Algebra will better prepare students for success.

**Academic Problem:**

All science, technology, engineering, mathematics and business majors are required to take either Math 1710 (Precalculus) or Math 1130 (College Algebra). Many of these students will not have college-level math placement. Before implementation of the co-requisite model, these students completed the TBR Math Learning Support Competencies in the Math 0810/0820 sequence before enrolling in any college-level math class. The co-requisite model, being implemented Fall 2015, requires all students who are below college-level math to enroll in a college math class along with a co-requisite math class. The co-requisite course focuses on completion of the TBR Learning Support Math Competencies along with just-in-time help for the college-level course. At Chattanooga State, we have seen that our students have a greater need for more extensive algebra skills that those that are encompassed by the TBR Learning Support Math Competencies. These skills must be developed prior to students enrolling in Math 1130 or Math 1710.

This course, Math 1030 (Introduction to College Mathematics) will enable students to have instruction beyond the TBR Learning Support Math Competencies before beginning Pre-calculus or College Algebra. Students will be able to begin college-level math earlier and will be more prepared for the intense algebra courses of Pre-Calculus and College Algebra.

Nationally, approximately 60% of all community college students are in enrolled in at least one developmental course, most often a mathematics course (Attewell, Lavin, Domina, & Levey, 2006; Bailey, 2009). Locally, for the state of Tennessee 74.7% of entering freshman enroll in remedial course while only 20% of these students complete college-level courses within their first two years of college. In 2011, the white paper in support of the Complete College America Act, reported developmental enrollment rates for twenty-seven states. This data demonstrated that 53.8% of students who enrolled in two-year institutions directly from high school required developmental math courses before moving on to college-level courses. The researchers stressed that the high percentage of students requiring developmental course work was detrimental to the completion agenda of colleges and universities because numerous research has demonstrated that students who require developmental courses are significantly less likely to finish college than those who enter at college-level (Johnson & Rochkind,
2009). Zinth (2012) found that students who took and passed two or more remedial math courses were 3% less likely to graduate with a degree than those students who were required to complete only one remedial math. Also, Zinth reported that two-year college students who successfully completed remedial math courses were more likely to graduate with a four year degree, after approximately six years, than equivalent students enrolled out of high school in four-year institutions. The Office of Program Policy Analysis & Government Accountability (2007) reported that only 29% of community colleges students who completed remedial courses graduated with an Associate’s degree in five years compared to 40% of the students who graduated within three years who were not required to complete remedial courses. Overall, only 2% of community college students graduate within two years with an Associate’s Degree while only 18% of students graduate within four years with a Bachelor’s Degree (Guided Pathways to Success: Boosting College Completion, 2014).

In response to these low success rates, Complete College America and several state college and university systems have begun offering the Co-Requisite Course Model where students receive remedial support while completing college-level math courses. Early research into the Co-Requisite Course Model indicates that students are more successful completing the remedial math course work with college-level math than students completing the Learning Support Mathematics Competencies prior to enrolling in college-level math. According Complete College America (2014), early results of Co-Requisite Course Model demonstrated that 29% of Virginia Community College students completed math college-level math courses in one academic year, compared to only 7% who successfully completed math courses in a traditional pre-requisite model. Based upon current data, the Co-Requisite Course Model should allow students to complete their degrees in fewer semesters and increase retention to graduation (Complete College America, 2014).

**Explain how the revitalized course will enhance student learning and improve student success:** Math 1030 will target the algebra remediation needs of Pre-Calculus and College Algebra students and the co-requisite course Math 0030 (Learning Support for College Algebra) will allow completion of the TBR Math Learning Support Competencies during the same semester. This will provide students a better foundation for success in subsequent courses Math 1710 or Math 1130. The current success rates (grades A-C) for Learning Support Math (MATH 0820), MATH 1710, and Math 1130 are approximately 54%, 72.9% and 60.6%, respectively. This gives an approximate 33-39% success rate for students taking Learning Support Math and Math 1710 or MATH 1130 in sequential semesters. Implementation of Math 1030 will improve this overall success rate, and students will begin college-level mathematics courses a semester earlier.

**Pilot Phase and objectives:**

All STEM majors who are at college-level reading but below college-level math and will be advised to take Math 1030 during their first semester.

**Project Objectives:**

I. Create a course, Math 1030 (Introduction to College Mathematics) that prepares students for success in Pre-Calculus or College Algebra by including content that provides strong algebra foundation beyond the TBR Math Learning Support Competencies.

II. Increase the success rate of students completing the general education mathematics requirement (Math 1710 or Math 1130).

III. Allow students to enroll in college-level math sooner.

**Project Steps:**

Steps for Creation of Math 1030
I. Analyze what content is needed to prepare students for Pre-Calculus and College Algebra that is beyond the scope of the TBR Learning Support Math competencies and determine how to include those in the Math 1030 course.

II. Design and create Math 1030, including assignments, support materials, and a MyLabsPlus master course.

III. Train advisors on how to properly advise STEM students regarding mathematics requirements.

IV. Teach the new course Math 1030 during Fall 2015 to STEM majors who are at college-level reading but below college-level math during their freshman year.

V. Evaluate the outcomes of the course (student learning, success rates and grades).

VI. Modify the course as needed.

Formative Evaluation Methods:

All Math 1030 courses will be taught using the same MyLabsPlus course. Therefore, all assignments will be the same for every student, regardless of the section or the instructor.

We will compare student learning, success rates and grade distribution of students who complete Math 1710 or Math 1130 during Spring 2016 who were required to take Math 1030 to those students who complete Math 1710 or Math 1130 during Spring 2016 who were not required to take Math 1030.

Who is required to take the course?

All incoming freshmen STEM majors who are at college-level reading but below college-level math will be required to take Math 1030 before taking Pre-Calculus or College Algebra.

Collaborative Submission:

Yes, this redesign is part of another submission. We have submitted a proposal to create the co-requisite course, Math 0030, for this new Math 1030 course.
Motlow State Community College will revitalize the collegiate mathematics course, MATH 1630, Finite Mathematics, a 3-credit course that has as a requirement for registration either an ACT score of 19 or higher in mathematics or successful completion of MATH 0810, Learning Support Math. The revitalized course will embed requisite content from MATH 1003, Intermediate Algebra, into the standard curriculum for MATH 1630. This newly structured course will have the following attributes:

- Offered for students who completed Learning Support Mathematics (MATH 0810)
- Offered as a 4-credit course
- Additional testing would assess students’ mastery of MATH 1003 content
- Successful completion would satisfy MATH 1003 requirements to allow enrollment in higher mathematics classes for which MATH 1003 is prerequisite
- Additional credit hour would be used for lab work, small group work, and the additional tests
- Curriculum, lesson plans, and instruction would be redesigned to provide integration of MATH 1003 concepts in an order best suited to make MATH 1630 content more accessible to students
- Lab time and dedicated office hours would provide additional support for mastering MATH 1003 concepts

**Academic Problem:**

MATH 1630 is intended for the student who has selected a business or computer science related major, area of emphasis, or concentration. It is a gateway course required in the accounting, agriculture, business administration, economics, information systems, and pre-veterinary medicine areas of emphasis in the University Parallel major and in all concentrations of the Business Technology major. Students in these areas of emphases or majors will use MATH 1630 to fulfill the prerequisite for MATH 1830, Calculus for Business. For students with one of the above courses of study who enter the college in need of Learning Support Mathematics (MATH 0810), the traditional path is as follows:

MATH 0810 to
MATH 1630 to
MATH 1830.

This course trajectory does not have the student encounter the concepts of MATH 1003 prior to taking MATH 1830, Calculus for Business, even though student propensity in factoring, rational expressions, radicals, functions and their graphs is essential to be successful in the Calculus course.

The current success rate for MATH 1630 is 54% and the current drop rate for MATH 1630 is 19%. This low success rate is believed to be in part due to lack of mathematical maturity and expanded knowledge base that would be addressed through the revitalized MATH 1630 course. While offered through the mathematics department, this course is critical to students in the business tracks as detailed above. Working in collaboration with the business department to support their students will be critical to the overall success of this course. Appropriate advising to
encourage student enrollment among the target group (Learning Support students) will take place primarily in the Business Department with their majors.

Students may take MATH 1710 instead of MATH 1630 as the prerequisite for Calculus for Business, but this course trajectory is not common. One major obstacle facing Learning Support students who wish to take MATH 1710 prior to MATH 1630 is that MATH 1710 has an additional prerequisite requirement, which is the completion of MATH 1003. Few students take this track due to the additional course needed as compared to the 0810 to 1630 track; this appears to encourage Learning Support Students to pursue 1630 rather than 1710. For those using 1630 as a prerequisite for 1830, Calculus for Business, the low pass rate impedes timely completion of the mathematics courses which in turn impedes their success in every discipline for which this is required. At Motlow this most directly affects business administration majors.

Offering a stronger algebraic component in 1630 would greatly improve students’ pass rate for 1630 as well as increase success in 1830. Simply adding 1003 as a required course for enrollment in 1630 would add an extra semester to the students’ plan of study and would deter LSM students from choosing a business major. When given the choice between 1630 (that does not require 1003) or 1710 (that does require 1003) to satisfy the Calculus for Business prerequisite, the standard graduation plan selected is completion of 1630.

**Explain how the revitalized course will enhance student learning and improve student success:** Student learning will be enhanced through increased instructor contact hours, engaging small group work, inclusion of concepts from MATH 1003, and supplementary assistance with online homework. The additional time in class will allow for enriched student-instructor interaction and student-student interaction with the goal of sharing mathematical discourse and problem-solving ideas. Online homework will provide instant feedback to the students as well as tools for immediate assistance as needed.

Student success outcomes are expected to improve in two primary areas. First, the student pass rate (currently, 54%) should increase as students benefit from the enhanced learning opportunities.

Second, MATH 1630 is rarely completed as a terminal course. The sequential course for 1630 is MATH 1830, Calculus for Business. A higher success rate in 1630 coupled with the requisite 1003 knowledge currently lacking for those students entering 1830 should result in both a higher enrollment in 1830 along with a higher success rate among those enrolled who have taken the embedded 1003/1630 class.

These two improved student success outcomes will aid the Business Department, whose students are required to complete the courses addressed in this grant.

**Pilot Phase and objectives:**

Our objectives during this phase will be to discover how successful revitalized MATH 1630 students are when compared to the traditional course: do they successfully complete assignments and tests that cover the MATH 1003 embedded content, does the restructuring of concepts in MATH 1003 adequately align the material with the 1630 students’ mathematical skill set, are they more or less likely to drop out of the course than they had been in traditional 1630, etc.? Additionally, we will ascertain, as students exit MATH 1630 and subsequently enroll in MATH 1830, the success rate of the revitalized 1630 students.

We will also use the pilot phase to ascertain difficulties associated with recruiting students into the 4-hour course.

The pilot phase for course revitalization will begin Fall 2015 and will be piloted on the Smyrna campus. The course will consist of students who have completed Learning Support Mathematics

The objective for the pilot phase is to increase student success rate, as measured by percentage passing the course, for the Learning Support Mathematics students in and effort to meet or exceed that of the standard student enrollment in MATH 1630. A second objective for the course will be to have a drop percentage among
LSM students less than or equal to the drop rate for the non-LSM student in 1630. These percentages for success (54%) and drop rate (19%) are taken from MSCC’s campus averages for traditional 1630 sections.

Additionally, we will track students who have exited this pilot course and have enrolled in MATH 1830 in an effort to document their success rate as measured by final course grade.

**Project Steps:**

- Identification and recruitment of eligible students
- Registration of identified students with clear explanation of revitalized course requirements to be provided prior to enrollment
- Lab time introduction of MyLab at semester’s outset
- Coordination of schedule to include one revitalized section of MATH 1630, which will include both LSM students and non-LSM students who choose a course that includes the extra content
- Implement a system of detailed communication between the Mathematics and Business Departments to encourage appropriate enrollment
- Implement a system of detailed communication between the Mathematics Department and faculty advisors to disseminate information regarding the course and the students for whom it is best suited
- Instructor identification of 1003 concepts that are requisite for successful completion of MATH 1630 and foundational for MATH 1830
- Data collection and analysis to measure and record student success
- Create a syllabus, course materials, and D2L components for the revitalized course
- Revise the MSCC Catalog to reflect the new course and identify the student population it is designed to serve

**Formative Evaluation Methods:**

We will create a Student Perception Questionnaire and perform a formal exit interview to be administered in both the revitalized and traditional MATH 1630 courses and will compare results in order to gauge the effectiveness of the embedded design of 1630/1003. A final exam consistent with previous semesters will be utilized for the MATH 1630 final exam and results subsequently compared. A final exam utilized in the traditional 1003 course will be administered in the revitalized 1630 course as a means to measure mastery of the 1003 content.

**Who is required to take the course?**

Students with an ACT sub-score in Mathematics >13 while <19 will be eligible to take the revitalized MATH 1630 course upon completion of MATH 0810. Equivalent Compass scores will apply. Additionally, students with an ACT score >19 will be eligible to enroll in the revitalized MATH 1630 course and will be encouraged to do so to obtain remediation in MATH 1003 concepts to strengthen their foundational knowledge prior to Calculus for Business.

We are estimating that we will have multiple sections of revitalized MATH 1630 across our 4 campuses with approximately 90 - 100 students enrolled campus wide. This will include both LSM and non-LSM students.

**Collaborative Submission:**

No
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: READ 0810
Past Student Headcount:353     ABC%: 61

Description:

Our current READ 0810 Learning Support Reading course is a requirement for students with an ACT sub-score in Reading of 18 or below (or equivalent Compass scores). The course is a 3 credit-hour class that serves a pre-requisite for all but four other courses offered at Motlow. The course enrollment is capped at 24.

We are proposing a co-requisite model, 3 credit-hour READ 0810 class that will be paired with a newly-created 3 credit-hour First Year Experience class, MSCC 1010 (proposed course number). READ 0810 will continue to be a 3 credit-hour course, will be capped at 24 students per section, and will, for now, remain a pre-requisite for most other courses at Motlow. The course will continue to be a requirement for students who score sub-19 and below on the Reading portion of the ACT (or equivalent Compass scores). There will be no requirement that READ 0810 students enroll in special sections of MSCC 1010, nor will we cap the number of READ 0810 students who may enroll in a section of MSCC 1010. This decision is based on our very successful revitalization of ENGL 0810 and its piloted redesign as a co-requisite course with ENGL 1010 in Fall of 2014.

READ 0810 students will also continue to receive individualized instruction in terms of specific reading skills via the use of Pearson’s MyReadingLab, though the modules currently in use will be pared-down to account for the change in curriculum made possible by the co-requisite redesign.

Academic Problem:

Because the current READ 0810 course is a pre-requisite course, the student’s experience as well as the course instruction are isolated from actual college-level reading assignments. Instruction regarding how to locate main ideas, identify supporting ideas, develop vocabulary, synthesize and evaluate ideas, and develop strategies for reading academic material occurs too often in a sort of curricular vacuum.

The co-requisite design will provide instructors the ability to focus instruction on reading assignments taken directly form the co-requisite MSCC 1010 course, which will include a college experience textbook as well as a common novel. Consequently, all READ 0810 instruction will be immediately applicable to the college-level course material. We anticipate that instruction regarding the ability to identify main points and distinguish them from supporting points, instruction regarding vocabulary, and instruction regarding synthesizing and evaluation information will be both more effective and more engaging.

In addition, the redesign will allow instructors to identify individual students’ weaknesses more effectively because they will have real world examples of how students are performing in terms of reading skills in an actual college-level course.

Explain how the revitalized course will enhance student learning and improve student success: Our current READ 0810 course incorporates course readings that have no direct connection to actual college-level course assignments. In short, students practice reading comprehension skills using general reading materials in hopes that they acquire specific reading skills/strategies that can then be applied to college-level courses in the future.

The redesigned course will provide instructors the opportunity to match specific readings form the MSCC 1010 course to specific READ 0810 course Competencies established by TBR. For example, the instructor can choose which assigned reading for MSCC 1010 would be best to use as the focus for instruction regarding figurative language, which for writer’s purpose, which for tone, etc. While it is currently possible to cover these
Competencies without the co-requisite experience, the faculty believe the co-requisite experience will enhance the instruction tremendously by making the discussions more immediately applicable for the student.

As a reading intensive course, the FYE class will also help co-requisite READ 0810 students improve their skills regarding reading course syllabi and course textbooks and will also incorporate a common novel that all MSCC 1010 students will read as part of the course. Additionally, students will keep reading journals designed to assist with reading comprehension as well as to provide opportunities for reflection, personal growth, and career planning.

The redesigned co-requisite READ 0810 course, then, will incorporate a majority of the same reading assignments as the MSCC 1010 co-requisite course in order to give students more immediately-applicable instruction and/or assistance regarding reading comprehension. The READ 0810 course will also assist students with their reading journals and common novel assignments.

Moreover, the current use of TBR generated-Competency Mastery Points will be utilized both to structure course design and to measure course completion. Unlike the existing READ 0810 course, however, the redesigned course will allow students to receive instruction regarding specific readings from a specific college-level course.

The co-requisite course will not only increase the sense of immediacy and applicability that students feel as they cover the READ 0810 material, but covering the material in the READ 0810 class before it is then discussed and applied in the MSCC 1010 class will increase the Learning Support student’s sense of confidence and community as s/he participates in class as effectively as any traditional student might.

By replacing some of the Pearson modular work that is completed by students more or less in isolation, the revitalized READ 0810 course will also change the pedagogical approach for teaching college-level reading skills by allowing instructors to engage students in more active-learning and problem-solving in the classroom, which should improve the likelihood of skill mastery, student retention, and eventual degree completion.

**Pilot Phase and objectives:**

In Fall 2015, we will offer a total of 14 sections of READ 0810 across all four campuses with a total enrollment of approximately 336.

Our objectives during this phase will be to discover how successful Learning Support students will be in the college-level course: do they buy into the model, are they likely to succeed in the combined format of class activities and Pearson modular instruction, can the students keep pace with the traditional students in the co-requisite MSCC 1010 course, are they more or less likely to drop out of the courses than they had been in the prerequisite model, etc.?

We will also use the pilot phase to ascertain difficulties associated with Banner, Financial Aid, and Advisement that might arise.

**Project Steps:**

1). Redesign the current READ 0810 syllabus to reflect the MSCC 1010 course readings, and create the out-of-class apparatus of lectures, readings, activities, D2L components, etc. needed. Much of this will need to be done in consultation with the MSCC 1010 faculty.

2). Redesign the Pearson modular component of the READ 0810 course to take into account the new course activities described above.

3). Create Student Perception Surveys for READ 0810 students that can gauge student satisfaction.
4). Train all READ 0810 instructors in terms of the redesign and hold informative meetings with MSCC 1010 faculty to apprise them of the rationale, objectives, and materials associated with the co-requisite model.

5). Revise the MSCC Catalog to reflect the new course and the student population it is designed to serve.

**Formative Evaluation Methods:**

We will create a Student Perception Survey to be administered to our current (Spring 2014) prerequisite READ 0810 students and will then administer the same survey to our co-requisite READ 0810 students in Fall 2015 in order to gauge the students’ perception of the effectiveness of the redesign.

**Who is required to take the course?**

In Fall 2015, we will offer a total of 14 sections of READ 0810 across all four campuses with a total enrollment of approximately 336.

**Collaborative Submission:**

NA
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: READ0810
Past Student Headcount:2448     ABC%: 57.5

Description:

The revitalized course will be a co-requisite model of Learning Support. Students will take the three course combination, with the content of the ENGL1010 college level course being supplemented and enhanced in both the READ and the ENGL 0810 sections. Students will receive wrap around instruction in each co-req course to increase success in the college level gateway course.

Currently students in Learning Support participate in the Emporium Model – all instruction - lecture videos, homework, tests/quizzes - are presented in an online format. Students move through the material at different paces – which eliminates all lectures and uses interactive instructional software with on-demand-personalized assistance.

Academic Problem:

Students are enrolled in a single-semester English Comp 1 course while simultaneously receiving remedial instruction/support that is aligned and coordinated with the college level course.

The goal of remedial education is to help students take and pass college-level courses – this revitalized course is a co-req not pre-req – in other words, students can build needed skills WITHIN the context of a credit bearing course. Stand alone remediation does not generate momentum but remedial work that is aligned and coordinated with a college level course let’s students earn credit towards their degree while working on necessary basic skills.

Explain how the revitalized course will enhance student learning and improve student success: Many students are discouraged by developmental coursework because it takes them a long time to get through and it is fragmented (unconnected to their desired degree/certificate). The revitalized course addresses the needs to accelerate students by matching developmental coursework with a college level course regardless of skill level or background (which is motivational). This enhances student learning because it enables the underprepared student to receive the academic support that they need WHILE they are experiencing the difficulty – quickly and effectively – and in alignment to a “valued” credential course.

Pilot Phase and objectives:

One set of three classes will be piloted in Fall of 2015. The set includes one ENGL1010 and one ENGL0810 taught by the same instructor, and one READ0810 taught by another instructor. The syllabi and schedules for all three courses will be closely aligned to help students successfully complete the credit bearing course.

The project objectives are to encourage students to complete ENGL1010 and their required Learning Support classes quickly and successfully in one semester; to increase the pass rate of ENGL1010 students who require remediation by 10%; and to allow students to move more quickly into their college level courses.

Project Steps:

• Apply for grant
• Identify the 3 sections in banner
• Coordinate syllabi and course schedules
• Meet during the semester to identify areas that need changes
• Compile and evaluate results at the end of the Fall 2015 semester

Formative Evaluation Methods:

Summative evaluation methods: What are we evaluating? Why are we evaluating?
The evaluation should be used to guide change in strategies as needed.

Effective course:
• has a clear purpose
• amount of material is appropriate to allotted time and student ability
• contents are related to students abilities and interests
• appropriate instructional strategies to the learning task
• assignment and testing plan is appropriate and related to course goals
• class time is used effectively

Who is required to take the course?

ENGL1010 is a General Education course required of all students. Students scoring below 19 verbal on the ACT (or equivalent) are required to take READ0810. Students scoring below 18 verbal on the ACT (or equivalent) are required to take ENGL0810.

Collaborative Submission:

No
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: Math 0030
Past Student Headcount: 1458 ABC%: 54.5

Description:

The Chattanooga State Math Department will create Math 0030 (Learning Support for Math 1030) as a co-requisite course for Math 1030 (Introduction to College Mathematics). This course will replace the current Math 0810/0820 sequence for STEM majors who place at college-level reading but below college-level math and need algebra intensive courses such as Pre-Calculus (Math 1710) or College Algebra (Math 1130). Previously, those students would have been placed in Learning Support Math (Math 0810) and were required to have all 5 TBR Learning Support Math Competencies completed prior to enrolling in any college-level mathematics course. Under the co-requisite model, students will complete the TBR Learning Support Math Competencies in Math 0030 while taking their college-level course, Math 1030. We plan to carefully examine the current Learning Support Math content needed for success in Math 1030 and remove any redundancy. This will result in a new course, Math 0030, which combines the TBR Learning Support Math content with just-in-time instruction to support the Introduction to Math 1030 course.

Academic Problem:

Nationally, approximately 60% of all community college students are enrolled in at least one developmental course, most often a mathematics course (Attewell, Lavin, Domina, & Levey, 2006; Bailey, 2009). Locally, for the state of Tennessee, 74.7% of entering freshman enroll in remedial courses while only 20% of these students complete college-level courses within their first two years of college. In 2011, the white paper in support of the Complete College America Act, reported developmental enrollment rates for twenty-seven states. This data demonstrated that 53.8% of students who enrolled in two-year institutions directly from high school required developmental math courses before moving on to college-level courses. The researchers stressed that the high percentage of students requiring developmental course work was detrimental to the completion agenda of colleges and universities because numerous research has demonstrated that students who require developmental courses are significantly less likely to finish college than those who enter at college-level (Johnson & Rochkind, 2009). Zinth (2012) found that students who took and passed two or more remedial math courses were 3% less likely to graduate with a degree than those students who were required to complete only one remedial math. Also, Zinth reported that two-year college students who successfully completed remedial math courses were more likely to graduate with a four year degree, after approximately six years, than equivalent students enrolled out of high school in four-year institutions. The Office of Program Policy Analysis & Government Accountability (2007) reported that only 29% of community college students who completed remedial courses graduated with an Associate’s degree in five years compared to 40% of students who graduated within three years who were not required to complete remedial courses. Overall, only 2% of community college students graduate within two years with an Associate’s Degree while only 18% of students graduate within four years with a Bachelor’s Degree (Guided Pathways to Success: Boosting College Completion, 2014).

In response to these low success rates, Complete College America and several state college and university systems have begun offering the Co-Requisite Course Model where students receive remedial support while completing college-level math courses. Early research into the Co-Requisite Course Model indicates that students are more successful completing the remedial math course work with college-level math than students completing the Learning Support Mathematics Competencies prior to enrolling in college-level math. According to Complete College America (2014), early results of the Co-Requisite Course Model demonstrated that 29% of Virginia Community College students completed math college-level math courses in one academic year, compared to only 7% who successfully completed math courses in a traditional pre-requisite model. Based upon current data, the
Co-Requisite Course Model should allow students to complete their degrees in fewer semesters and increase retention to graduation (Complete College America, 2014).

**Explain how the revitalized course will enhance student learning and improve student success:** The course, Math 0030, will target the Learning Support needs of MATH 1030 students while also providing just-in-time help to support the MATH 1030 content. The result is a streamlined one-semester approach rather than the current two semester sequence. The current success rates for Learning Support Math (MATH 0820), Math 1710 and Math 1130 are approximately 54.4%, 72.9%, and 60.6%, respectively. This gives an approximate 33-39% success rate for students taking Learning Support Math and MATH 1710 or Math 1130 in sequential semesters. We will improve this overall success rate, and students will begin their college-level math requirement sooner.

**Pilot Phase and objectives:**

All students who are at college-level reading but below college-level math and STEM majors will be advised to take Math 1030 as their first college-level mathematics course. Those students whose math placement level is below college-level will also be required to take Math 0030 (Learning Support for Math 1030) as a co-requisite course.

**Project Objectives:**

I. Create a co-requisite course (Math 0030) that satisfies the TBR Learning Support Math competencies while also providing support for the Math 1030 course being taken concurrently.

II. Allow students to enroll in college-level math courses sooner.

**Project Steps:**

Steps to Revitalization of Math 0030

I. Analyze TBR Learning Support Math competencies and determine how to include those in the Math 0030 course in the order that best supports Math 1030.

II. Design and create the course Math 0030, including assignments, documents, support materials, and MyLabsPlus master course.

III. Train advisors on how to properly advise students when enrolling in Math 0030.

IV. Teach the co-requisite course Math 0030 along with Math 1030 during Fall 2015 to any incoming freshman STEM majors who are at college-level reading but below college-level math.

V. Evaluate the outcomes of the courses (student learning, success rates and grades).

VI. Modify the course as needed.

**Formative Evaluation Methods:**

We will compare Math 0030 students to historic data for students in Math 0820. We will compare the following:

I. Success rates (Percentage of students who pass the course)

II. Grade distribution

III. Retention of students into the next semester (enrollment at ChSCC)

**Who is required to take the course?**

All incoming freshmen STEM majors who are at college-level reading but below college-level math will be advised to take Math 0030 along with Math 1030 during their first semester.
Collaborative Submission:

Yes, this redesign is part of another submission. We have submitted another proposal to create the course for which this course is a co-requisite, Math 1030 (Introduction to College Mathematics).
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: Math 0530
Past Student Headcount: 2316  ABC%: 54.4

Description:

The Chattanooga State Math Department will create Math 0530 (Learning Support for Math 1530) as a co-requisite course for Math 1530 (Introduction to Statistics). This course will replace the current Math 0810/0820 sequence for non-STEM majors. The co-requisite course is for students whose mathematics placement is below college-level. Previously, those students would have been placed in Learning Support Math (Math 0810) and were required to have all 5 TBR Learning Support Math Competencies completed prior to enrolling in Math 1530. Under the co-requisite model, students will complete the TBR Learning Support Math Competencies during the same semester as completing their General Education Math requirement in Math 1530. We plan to carefully examine the current Learning Support Math content needed for success in Math 1530 and remove any redundancy. This will result in a new course, Math 0530, that combines the TBR Learning Support Math content with just-in-time instruction to support the Introduction to Statistics course.

Academic Problem:

Nationally, approximately 60% of all community college students are enrolled in at least one developmental course, most often a mathematics course (Attewell, Lavin, Domina, & Levey, 2006; Bailey, 2009). Locally, for the state of Tennessee 74.7% of entering freshman enroll in remedial courses while only 20% of these students complete college-level courses within their first two years of college. In 2011, the white paper in support of the Complete College America Act, reported developmental enrollment rates for twenty-seven states. This data demonstrated 53.8% of students enrolled in two-year institutions directly from high school required developmental math courses before moving on to college-level courses. The researchers stressed that these high percentages of students requiring developmental course work was detrimental to the completion agenda of colleges and universities because numerous research has demonstrated that students who require developmental courses are significantly less likely to finish college than those who enter at college-level (Johnson & Rochkind, 2009). Zinth (2012) found that students who took and passed two or more remedial math courses were 3% less likely to graduate with a degree than those students who were required to complete only one remedial math. Also, Zinth reported that two-year college students who successfully completed remedial math courses were more likely to graduate with a four year degree, after approximately six years, than equivalent students enrolled out of high school in four-year institutions. The Office of Program Policy Analysis & Government Accountability (2007) reported that only 29% of community colleges students who completed remedial courses graduated with an Associate’s Degree in five years compared to 40% of the students who graduated within three years who were not required to complete remedial courses. Overall, only 2% of community college students graduate within two years with an Associate’s Degree while only 18% of students graduate within four years with a Bachelor’s Degree (Guided Pathways to Success: Boosting College Completion, 2014).

In response to these low success rates, Complete College America and several state college and university systems have begun offering the Co-Requisite Course Model where students receive remedial support while completing college-level math courses. Early research into the Co-Requisite Course Model indicates that students are more successful completing the remedial math course work with college-level math than students completing the Learning Support Mathematics Competencies prior to enrolling in college-level math. According to Complete College America (2014), early results of Co-Requisite Course Model demonstrated that 29% of Virginia Community College students completed math college-level math courses in one academic year, compared to only 7% who successfully completed math courses in a traditional pre-requisite model. Based upon current data, the Co-
Requisite Course Model should allow students to complete their degrees in fewer semesters and increase retention to graduation (Complete College America, 2014).

**Explain how the revitalized course will enhance student learning and improve student success:** The course will target the remediation needs of MATH 1530 students while also completing their learning support competencies with the MATH 0530 component, resulting in a streamlined one semester course rather than the current two semester sequence. The current success rates for Learning Support Math (MATH 0820) and MATH 1530 are approximately 65% and 70%, respectively. This gives an approximate 45.5% success rate for students taking Learning Support Math and MATH 1530 in sequential semesters. We will improve this overall success rate, and students will satisfy their general education math requirement in one semester instead of two.

**Pilot Phase and objectives:**

All students who are at college-level reading and not STEM majors will be advised to take Math 1530 (Introduction to Statistics) as their general education mathematics course. Those students whose math placement level is below college-level will also be required to take Math 0530 as a co-requisite course. All sections of Math 1530 will be open for any student who is at college-level reading, regardless of their math placement. The Math 0530 course will be a separate concurrent 3 credit hour class for those students.

**Project Objectives:**

I. Create a co-requisite course (Math 0530) that satisfies the TBR Learning Support Math competencies while also providing support for the Math 1530 course being taken concurrently.

II. Allow students to enroll in college-level math sooner.

III. Increase the success rate of students completing their general education mathematics requirement (Math 1530) in one semester.

**Project Steps:**

Steps to Revitalization of Math 0530

I. Analyze TBR Learning Support Math competencies and determine how to include those in the Math 0530 course in the order that best supports the college-level math courses Math 1530.

II. Design and create the course Math 0530, including assignments, documents, support materials, and MyLabsPlus master course.

III. Train advisors on how to properly advise students when enrolling in Math 0530.

IV. Teach the co-requisite course Math 0530 and Math 1530 during Fall 2015 to any incoming freshman who are at college-level reading but below college-level math and not STEM majors.

V. Evaluate the outcomes of the courses (student learning, success rates and grades).

VI. Modify the course as needed.

**Formative Evaluation Methods:**

We will compare the Math 1530 students who placed at college-level to Math 1530 students who were below college-level math (were required to take Math 0530). We will compare:

I. Success rates (Percentage of students passing the course)

II. Grade distribution
III. Final Exam grades

IV. Retention of students into the next semester (enrollment at ChSCC)

Who is required to take the course?

All incoming freshmen who are at college-level reading and are not STEM majors will be advised to take Math 1530 to satisfy their general education mathematics requirement. Those students who are below college-level mathematics will also be required to concurrently take Math 0530 course.

Collaborative Submission:

No
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: ANTH 2210 World Prehistory
Past Student Headcount:319  ABC%: 46

Description:

ANTH 2210 World Prehistory has been taught at MTSU since 2004 as a traditional lecture course using a standard textbook and quiz/exam evaluation format. The revitalized course will continue to be a solid contribution to the General Education curriculum, fulfilling 3 hours of 9 required General Education hours in the Humanities and/or Fine Arts. Our new course platform will be a flipped classroom, requiring out-of-class online viewing of in-house short-form video lectures to build the chronological and culture-change framework for the course. This framework will be fleshed out during the class period with faculty-led presentation and discussion of case studies illustrating each culture phase, plus in-class exercises designed to highlight course objectives. Students will be required to visit existing online resources, including documentary films, web pages, interactive exercises, and readings. These resources will be the focus of in-class discussion, with an emphasis on critical reading/viewing and cultural literacy, in addition to mastery of the essential course concepts. In the spirit of the Liberal Arts education, and with a commitment to developing students into lifetime learners, critical thinkers, engaged citizens, and well-rounded members of society and the workforce, within the course framework special instructional focus will be placed on maps and geographic literacy, vocabulary, informal public speaking, professional discourse and writing, working in groups, and professional social media skills. Course elements will include:

- textbook independent
- short-form video lectures (5 to 15 minutes) prepared in-house using lecture-capture software
  
  Note that this course is taught by multiple faculty, and each faculty member will contribute video lectures on his or her area of expertise, resulting in a richer learning experience for the student.
- in-class activities, especially group exercises
- online films, web resources, interactive exercises, and readings using existing materials
- in-class discussion of video lectures, case studies, activities, and online resources
  
  allowing students to practice informal public speaking, organization and summary of facts and ideas, and professional argumentation.
- online quizzes and exams
- in-class post-quiz / post-exam discussion of quiz results and re-examining course topics if necessary
- Course cohort-building and communication via the D2L course homepage, course Facebook page, and other social media platforms.
- All class materials will be available in or linked through D2L.

Academic Problem:

There are numerous studies that show collaborative learning communities are more effective with student learning than traditional lecture courses. Collectively we have taught ANTH 2210 World Prehistory at MTSU every semester since 2004, in both traditional brick-and-mortar settings and an online format. While we continuously update the content of the course to reflect the most recent findings in human prehistory, we have yet to take full advantage of new technologies and pedagogies entering the world of higher education. Instead of students merely
By revitalizing our approach to content delivery in ANTH 2210 we will be able to offer MTSU students a course that contains both breadth and depth, with the focus on contributing to a Liberal Arts education that builds student success in critical skills areas: geographic literacy, vocabulary, critical reading, and critical thinking. The course revitalization process in ANTH 2210 will focus on increasing student retention (i.e., lower the number of students withdrawing) and student success (i.e., lower the D/F% rate).

**Pilot Phase and objectives:**

The ANTH 2210 course redesign team has chosen three areas to focus on during the pilot phase of the project: (1) past student performance; (2) present performance and student perception; and (3) course revision.

**Focus 1: Past Student Performance**

- We will aggregate data from all sections of ANTH 2210 taught between Fall 2009 and Fall 2014, available from D2L.
- We will review the statistics available in D2L for specific test questions and sections, to pinpoint topics that need improvement.
- We will review written comments from teaching evaluations, as available.

**Focus 2: Present Student Performance and Student Perception**

- We will include written questions/comments on student teaching evaluations in Spring 2015.
- We will conduct an anonymous survey of student perceptions of various elements of the course (content, assessments, lectures, videos) via SurveyMonkey.

**Focus 3: Course Revision**

- We will incorporate both the quantitative data and qualitative feedback from the various sources listed above to identify the sections and topics of the course that need revision.

**Project Steps:**

**Pre-project Phase (Spring 2015)** – During this phase of the project our redesign team will compile quantitative and qualitative data reflecting the past five years of instruction and student performance. We will use these data to identify course components to be revised. We will experiment with sample short-form video lectures and in-class activities. Our team will discuss areas needing redesign with other MTSU faculty who teach this course but are not on the redesign team. We will conduct anonymous student performance surveys (via SurveyMonkey) during this phase.

**Redesign Phase (Spring and Summer 2015)** – During the redesign phase we will employ Camtasia video capture software to create short-form video lectures. We will create online quiz and exam questions to be uploaded into a D2L Question Library for all that teach this course to use. We will seek out and evaluate the most up-to-date online resources for course topics, and design in-class group activities. Finally, we will upload all relevant pieces of this project into a D2L course shell for the brick-and-mortar class that will be shared with all faculty teaching ANTH 2210. The same materials will be uploaded to the online version of this course in D2L and amended as necessary to fit the format of an online course.
Pilot Phase (Fall 2015) – During this phase of the course revitalization project we will implement the new course elements as described in Question 1 in all of the sections of ANTH 2210 offered in Fall 2015. We will assess their effectiveness by compiling the same quantitative and qualitative data used to develop the pilot phase (see Question 4).

Final Evaluation Report (December 2015) – the final evaluation report will detail the different phases of the project, actions taken, and outcomes of these actions. We will evaluate the revitalized course components and assessments, as well as give a side by side comparison of quantitative data from classes taught using the traditional format in Spring 2015 and those taught in Fall 2015 using the new course redesign.

Formative Evaluation Methods:

The summative evaluation methods will include:

- revisiting of the elements we conducted in the pre-project phase;
- including written comments on student course evaluations; and
- comparing quantitative data on student grades from previously taught sections of ANTH 2210 with the results of the redesigned project.

Using the results of the summative evaluation, the design team will revise the pilot version of the redesigned course for future delivery.

Who is required to take the course?

ANTH 2210 World Prehistory fulfills one of the General Education requirements for Humanities/Fine Arts, regardless of major. All Anthropology majors and minors are required to take this course. Archaeology minors are required to take this course.

Collaborative Submission:

This redesign is NOT part of a collaborative with another submission.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: COMM 1050
Past Student Headcount:140   ABC%: 85

Description:

The course enrollment will be limited to 12 students as opposed to the current 20-25 cap, classroom availability permitting. The enhanced revitalized course will use the flipped classroom methodology providing more hands-on experience and more retention of material. The differentiation from the traditional course to this revitalized course will be less in-class lecture by utilizing more on-line presentation of course topics as well as more practical application in a laboratory experience during class meeting times.

Academic Problem:

The revitalized course will use competency-based learning approach to improve student attention and retention. The limited class size will allow for more one-on-one interaction with the instructor, better preparing the students for the following courses in the sequence. By dedicating more in-class time to hands-on learning, the student will gain more experiences and practical applications of the course materials presented in the on-line course topics. With decades of broadcast television experience, this team of instructors has the real-world knowledge to create a learning environment that is stimulating and instructive.

Explain how the revitalized course will enhance student learning and improve student success: The students will have more opportunities to engage more effectively with the Instructor in and out of the classroom. Class time will be devoted to practical utilization of equipment and their operational theories. By using class time to apply learning, students will experience more hands-on opportunities, further enhancing the productions skills necessary to successfully advance through the course and the following courses in the Mass Communications Sequences.

Pilot Phase and objectives:

The revitalized course will be implemented in the Fall 2015. The objectives will examine if more online learning outside the classroom, with more hands-on learning using class meetings as more of a laboratory experience, will enhance student learning. The first and future semesters will be a flipped classroom experience for the students.

Project Steps:

The enhanced course will move lecture material to an online environment. Material previously presented in lectures will be transformed into online reading coursework and video tutorials. The course syllabus will be restructured to reflect the dual learning experience for the students. Classroom meetings will be developed into a laboratory experience including group and individual learning opportunities. Assessment evaluations will be administered in class to gain a better perspective of online material retention. The D2L components for the course will be developed in the summer prior to the Fall implementation. The Instructors will also create surveys for the students in the current (former) classroom lecture presentation environment and compare those results to a survey administered to the students after completing the revitalized course structure. The course Instructors will be collectively strategize and create common course materials and assessment tools as well as a similar laboratory structure for the enhanced course.

Formative Evaluation Methods:

The instructors will develop an end-of-course student survey to be administered to both the current and the new revitalized course structure to gauge student effectiveness of the flipped classroom approach as well as their feeling of retention of course material and hands-on learning. We will compare the rates of student success and analyze student perceptions of the course revitalization.
Who is required to take the course?

Communications Majors and Minors in the Mass Communication Concentration Core are required to take this course. This course is a prerequisite for all of the production and journalism required courses to earn the Communications degree. It is a gateway introductory course to the technology and practical applications used in every track of the Mass Communications program.

Collaborative Submission:

It is not but as a prerequisite, it will benefit the following required courses in the sequence.
2015-2016 TBR Course Revitalization Project Summary

Course: CHEM 1110
Other:
Past Student Headcount:520 ABC%: 54.5

Description:

This revitalized course will require a recitation section for students in the first semester of freshman chemistry (CHEM 1110). Students currently attend didactic lectures three hours per week and complete practice exercises outside of class (some traditional and some online). While these assignments are both necessary and beneficial, it is believed that learning will be enhanced by introducing supervised collaborative projects and critical thinking activities. As the current course format does not allow time for these activities, attaching a 55 minute recitation section to the lecture section is proposed. Pilot sections of CHEM 1110 are proposed for fall 2015 at the Blount County and Division Street Campuses, because 1) success rates are typically lower at these campuses, 2) access to tutors in the Educational Resource Center at the site is limited, and 3) scheduling of students into a recitation section will likely encounter fewer course conflicts at these campuses.

Academic Problem:

Students enrolled in CHEM 1110 typically are majoring in the pre-health professions, engineering or natural sciences. Passing this course with a solid foundation is necessary to be successful with the required courses that follow. Students not successful in CHEM 1110 will drop the course, stop attending and/or repeat the course to improve the grade. This places students behind with academic progress and sometimes discourages the pursuit of a dream. The goal by adding the recitation section is to determine weaknesses early and help instill these concepts for a more successful outcome.

For the past five years, several of the chemistry instructors have utilized Student Supplemental Instructors (SSI) for at least one of their CHEM1110 sections. These peer led tutoring sessions have been of benefit to those students that voluntarily attend. The success rates for the SSI attending students versus the non SSI attending students are shown below for the past two semesters.

<table>
<thead>
<tr>
<th>Semester</th>
<th>SSI Attending</th>
<th>% A,B,C</th>
<th>Non SSI Attending</th>
<th>% A,B,C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2014</td>
<td>34</td>
<td>61.76</td>
<td>80</td>
<td>53.75</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>36</td>
<td>61.11</td>
<td>74</td>
<td>52.70</td>
</tr>
</tbody>
</table>

The required recitation sessions would not replace the use of SSI but would improve upon this approach in several ways: 1) the recitation sessions would be faculty rather than peer led, 2) the recitation sessions would be required rather than voluntary and 3) the tutoring would be paced rather than last minute as is often the case with voluntary SSI sessions..

Before the spring 2014 semester, the math prerequisite for CHEM1110 was completion of any developmental mathematics requirements. The Math prerequisite was strengthened starting spring 2014 to: ACT math score of at least 22; or MATH 1130, 1710, 1730, 1630, 1830, or 1910. There is not enough data to know whether the increase in success for fall 2014 is a direct consequence of the increased math requirement. Data for ABC/DFW rates for fall 2011 through fall 2014 are shown below:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Total Success</th>
<th>Total Enrolled</th>
<th>% A,B,C</th>
<th>%D,W,F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2011</td>
<td>171</td>
<td>384</td>
<td>44.53</td>
<td>55.47</td>
</tr>
<tr>
<td>Spring 2012</td>
<td>137</td>
<td>307</td>
<td>44.63</td>
<td>55.37</td>
</tr>
</tbody>
</table>
Fall 2012  201  400  50.25  49.75  
Spring 2013  144  297  48.48  51.52  
Fall 2013  162  291  55.67  44.33  
Spring 2014  122  229  53.28  46.72  
Fall 2014  181  295  61.36  38.64  

**Explain how the revitalized course will enhance student learning and improve student success:** The required recitation will allow the instructor to determine the areas of difficulty for the students using a variety of collaborative methods in small group settings. Students will teach each other the concepts under the supervision of the lecture instructor. These recitations will foster relationships that will hopefully morph into regular study groups outside of class. One also hopes that students will be inspired by this added meeting, eager to attend and appreciative to learn chemistry this way.

**Pilot Phase and objectives:**

The pilot phase will have a lecture and lab section with a required 55 minute recitation meeting assigned to the same instructor at the Blount County and Division Street Campuses. The objective is to recognize weaknesses early and give explanation followed by collaborative assignments to help address these weaknesses before the exam is given. In addition, communication and problem solving skills will be improved.

**Project Steps:**

This spring, chemistry faculty involved in the revitalization will research specific activities for collaborative or team learning. Two excellent sources may be Amy Harding’s “Team-Based Learning: Integrating into Your Classroom” and Georgia Southern University’s Mahalingam, Schaefer, Marlino’s “Group Problem Solving in General Chemistry Recitation to Promote Learning.” Mahalingam’s team saw a decrease in the DF grades by about 10%. A rubric will be developed for evaluation of the sections with required recitations and the traditional sections for comparison and analysis. This will include the chapter exams as well as the departmental final exam. In addition, the ACT scores and other background information on the students (TN Promise or returning student, etc.) will be obtained. A survey or questionnaire will be designed to gather this information. Scheduling will be a factor as the fall schedule will be due very soon.

**Formative Evaluation Methods:**

Several methods will be used to evaluate the effectiveness of the proposed innovative approach. Instructors will compare exam averages for each of the chapter exams of students in the traditional sections (control groups) with those from the modified section(s) with recitation, as well as student performance on the departmental comprehensive final exam. Analysis of scores can demonstrate whether the additional recitation section, as well as the formative assessment techniques, is proving of value to student performance and comprehension of material. Analysis of specific questions on the final exam will illuminate those concepts and problem-solving skills that gave students the most difficulty in the traditional and modified sections to see if performance was improved.

**Who is required to take the course?**

General chemistry is required for the vast majority of students wishing to pursue engineering or science majors at a four-year institution. In addition, all students with a health professions goal (except some nursing programs) are required to take general chemistry. Any student requiring a lab science for an associate degree may opt to take general chemistry to fulfill this general education requirement.

**Collaborative Submission:**
Course: Other
Other: BIOL 1111, BIOL 1121
Past Student Headcount: 471   ABC%: 63

Description:
General Biology I and II are lower division, interdisciplinary courses designed to acquaint students with fundamental biological concepts and principles as they relate to living organisms. Emphasis is placed on vital and important components that contribute to the order and interrelationship of life through interdependence. Co-requisites are the laboratory components of the lecture course.

The revitalized courses include curricular changes in the laboratory components of the General Biology I and II courses. This includes (1) infusion of learning technologies, (2) integration of new approaches to laboratory exercises into the existing curriculums, (3) using curriculum mapping as a methodology for enhancing course content and (4) laboratory activities using web-based modules to enhance diverse students’ knowledge and skills.

A total of eight web-enhanced modules will be created: 4 for General Biology I laboratory activities and 4 for General Biology II laboratory activities (Appendix B). Graduate Teaching Assistants (GTAs) will receive training on the implementation of these modules in the laboratory class rooms. Curriculum mapping will be used to correlate course specific objectives and program objectives with the following natural science requirements. Upon completion of the course, students should be able to:

- Conduct an experiment, collect and analyze data, and interpret results in a laboratory setting;
- Analyze, evaluate, and test a scientific hypothesis;
- Use basic scientific language and processes and be able to distinguish between scientific and non-scientific explanations;
- Identify unifying principles and repeatable patterns in nature, the values of natural diversity, and apply them to problems or issues of a scientific nature; and
- Analyze and discuss the impact of scientific discovery on human thought and behavior

Academic Problem:
This proposal is designed to enhance STEM interest, knowledge, and skills in an undergraduate student body that is approximately 80% African American and 60% female. An achievement gap exists between students of color and other ethnic counterparts at the high school level, especially in the sciences. This dichotomy in student progress is outlined as a part of the 2005 National Assessment of Educational Progress (Grigg, et. al., 2006). These students enter their collegiate studies with these achievement gaps still in effect. Technology can be used successfully in providing engaging experiences for students in the science classroom. The use of clickers, electronic response systems, is supported by literature as a student-centered method of engaging the entire lecture hall. It was reported that:

1) Students, particularly in large science classes, enjoy them and believe they help them better understand material and prepare for exams.
2) Attendance improved in classes ranging from 20% to 30% when clickers were used.
3) Student learning appears to improve.
4) Students were more attentive with less sleeping in class.
Explain Project's instruction

5) Apathy is much less evident (Sutherlin, et al. 2013; Judson & Sawada, 2002; Greer & Heaney, 2004; Hatch, Jensen, & Moore, 2005; Duncan, 2005).

In addition to these findings, a study conducted by Griff & Matter (2007) analyzed personal response data systems and found that students who registered their devices early ('early responders') had a higher probability of success when compared to those registering later. They suggest that this type of data could be used to identify students with a higher probability of failure as early as the first week of class.

Modifications to the laboratory sections are also designed to give students a cutting-edge view of technology and its uses in the many areas of biological science while contributing to workforce development of undergraduate and graduate students. These changes to the undergraduate biology curriculum are influenced by the Center for Research on Education, Diversity, and Excellence (Tharp, et al. 2003) which put forth Five Standards for Effective Pedagogy:

1) Joint productive activity (teachers and students producing together),
2) Language Development (developing language and literacy across the curriculum),
3) Contextualization (making meaning through connecting school to students’ lives),
4) Challenging activities (teaching complex thinking), and
5) Instructional conversation (teaching through conversation).

Explain how the revitalized course will enhance student learning and improve student success: The quality of instruction in the laboratory classes will be updated to enhance student learning and improve student success by 1) infusion of learning technologies, (2) integration of new approaches into the existing curriculums, (3) using curriculum mapping as a methodology for enhancing course content and laboratory activities, and (4) using web-based modules to enhance diverse students’ knowledge and skills.

The overall goal is to improve the undergraduate experience of diverse students through the use of technology to supplement students’ laboratory experiences. This project focuses on providing web-based modules to enhance diverse students’ knowledge and skills.

Pilot Phase and objectives:

Project’s Aim: To reduce the achievement gap between undergraduate students of color and stimulate their interest in science/technology

Goal (1) Integrate new approaches to laboratory exercises into the existing curriculum

- Objective 1.1 Design and implement web-enhanced modules into biology laboratories specifically to stimulate interest in biology and science in general, as measured by the increases in interest and confidence with students finishing the laboratory classes.

- Objective 1.2 Assess the fidelity of implementation of the laboratory modules and changes in pedagogical methods which impact the interest, confidence, and trajectory of the student as measured by surveys, interest inventories, and interviews with undergraduate students, and graduate teaching assistants.

Goal (2) Assess and evaluate changes in student interest, confidence, and trajectory as a result of implementing these modules
Objective 2.1 Collect baseline data of changes in student interest, confidence, and trajectory in STEM fields during the Summer 2015 semester prior to implementing curricular/laboratory changes, with at least 60% of students in these courses responding to an anonymous online retrospective survey.

Objective 2.2 Collect data of changes in student interest, confidence, and trajectory in STEM fields during Fall 2015, Spring 2016 and Summer 2016 semesters after implementing curricular changes, with at least 60% of students in these courses responding to an anonymous online retrospective survey.

Goal (3) Improve students’ performance in the gate keeping courses and the Department’s retention rate.

Objective 3.1 Collect and compare baseline data on students’ performance in courses during previous academic year.

Objective 3.2 Collect and compare data on the percentage of students who matriculate from Biology I to Biology II and compare with data from previous year.

Project Steps:

a) Identify surveys for collection of baseline data

b) Pilot surveys with students enrolled during summer 2015

c) Develop a minimum of eight web-enhanced modules: 4 for BIOL1111 and 4 for BIOL1121

For each module,

- Determine objectives
- Identify video
- Create clicker activity and other assessments

d) Using D2L, develop assessments that link course and program competencies

e) Revise and upload assessment tools into the D2L platform for the courses

f) Link course competencies and program objectives

g) Provide training for graduate teaching assistants

- Use of electronic response systems
- Implementation of web-enhanced modules

Formative Evaluation Methods:

The effectiveness of these curricular changes will be measured via quantitative and qualitative methods. Most of the research on changes in student interest, confidence, and achievement will be quantitative, while interviews and focus groups with graduate teaching assistants implementing these changes will provide qualitative data on the impact of the program.

Research Objectives:

- To measure the impact of the modules and curricular changes upon student interest, and confidence by comparing the implementation group to a control group of students
• To research the effective and ineffective pedagogies employed in these courses as reported by students in the course **
• To measure fidelity of implementation with graduate teaching assistants during laboratory exercises
• To measure student achievement by comparing pre and posttests, end of course grade, and achievement of course objectives

**Student Assessment of Learning Gains (SALG): An on-line survey that measures student perceptions of their learning gains due to any components within a course. http://www.salgsite.org/

Methods for conducting research will include surveys of students and graduate teaching assistants. Students will be asked to complete a pretest and posttest to measure changes in their attitudes and abilities by comparing their undergraduate experiences before participation in a web-enhanced course and after participating in and receiving a grade for the course. A final survey will be administered to assess how successful the courses are at 1) increasing the students’ competence in this broad field of critical thinking and solving problems facing scientists, and 2) motivating the students to pursue careers in STEM fields. A survey of graduate teaching assistants implementing these modules will serve to provide an assessment of fidelity. Changes in student proficiency will be evaluated on end of course exams and changes in retention as a result of implementing these assessments.

Who is required to take the course?

The course satisfies 4 hours of the natural science requirements for the general education requirements and is the first course for biology majors.

Collaborative Submission:

This proposal is not part of a collaborative with another course revitalization submission to TBR.
2015-2016 TBR Course Revitalization Project Summary

Course: HIST 2020
Other: ENGL 2023
Past Student Headcount: 120       ABC%:

Description:

The proposed course revitalization project seeks to improve student performance in Sophomore Literature and American History, specifically the proposal addresses ENGL 2023, Black Arts and Literature II, and HIST 2020, American History, 1877-present. The proposed bundling of certain sections of these courses will involve an exchange of ideas and lectures designed to improve the reading of texts in the English course and improve the understanding of the historical moment through the use of literature from ENGL 2023 in the history courses.

The proposal includes five different modules which will guide the lecture/discuss exchange:

<table>
<thead>
<tr>
<th>Historical Lecture Topic</th>
<th>Literature Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Northern and Urban Migration in the Early 20th Century</td>
<td>Rudolph Fisher’s “City of Refuge”</td>
</tr>
<tr>
<td>3. Voting Rights and the Struggle for the Franchise</td>
<td>Sterling Brown’s “And/Or”</td>
</tr>
<tr>
<td>4. Women’s Rights and Equality</td>
<td>Alice Walker’s “Roselily”</td>
</tr>
<tr>
<td>5. Utopia and Dystopia</td>
<td>Octavia Butler’s “Speech Sound”</td>
</tr>
</tbody>
</table>

Academic Problem:

The proposed course revitalization project seeks to improve student performance in Sophomore Literature and American History, specifically the proposal addresses ENGL 2023, Black Arts and Literature II, and HIST 2020, American History, 1877-present.

The proposal seeks to address one of the major problems in the study of literature: context. Without a proper understanding of the historical and social context or of the issues surrounding the text, students often do not fully appreciate the texts. The historical lectures would lend themselves toward addressing this issue. In the history courses, the problem of understanding of the historical moment would be address through the reading of a specific literary text which in the historical period and about the issues under study in the course.

*Explain how the revitalized course will enhance student learning and improve student success:* Students in both the sophomore literature and history courses would benefit from open exchange between professors from two different disciplines and gain an appreciation for the intersection of ideas, specifically in the fields of English(African-American Literature) and History (American History).

Pilot Phase and objectives:

During the fall semester, the exchange will involve only three of the five modules in one section of ENGL 2023 and one section of HIST 2020. Students will be given an assessment following the exchange.

Objectives

1. Improvement of student comprehension of reading
2. Improvement of student understanding of the historical period
3. Improvement of student performance on the assessment.
**Project Steps:**

The exchange will follow the modules outlined in the description of the project. During the fall semester only the first three modules will be introduced. During the spring semester all five modules will be introduced in two sections of each course.

**Formative Evaluation Methods:**

Following each exchange students will be given a quiz to measure comprehension of the lectures and exchanges. In addition each major examination will include a set of at least 10 questions designed to assess whether students have appreciated the exchange; that is if students have recognized the connection between the historical context and the literature’s specific depiction of the historical moment. At the end of the semester, student performance will be measured based on the identified questions, but also based on the grades on the quizzes and examinations. During the spring semester when all five modules are implemented, the performance of students during the fall semester and spring semester will be compared.

Students’ mastery of the learning outcomes in the sections involved in the exchange will be evaluated by objective tests and written assignments. Ultimately, student grades would be measured against previous sophomore literature and sophomore level history course assessments. We hope that this type of exchange will render higher test performance.

**Who is required to take the course?**

All students are required to take sophomore literature. ENGL 2023, Black Arts and Literature II, is one of the options for fulfilling the sophomore literature requirement. All students are required to take HIST 2020.

**Collaborative Submission:**

N/A
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: BIOL1010, BIOL1020, BIOL2210, BIOL2220, MATH1110 and MATH1830
Past Student Headcount: 2373  ABC%: 42

Description:

Beginning in 2002, the Avon Williams Campus (AWC) became the hub of academic outreach for Tennessee State University (TSU), catering to the academic and student support needs of adult learners. At that time, students 25 years of age and older, both graduate and undergraduate, comprised 29% of the student population at the University. Today, students 25 years of age and older comprise forty percent (40%) of the total University headcount. The undergraduate adult student population alone represents nearly one third (1/3) of the total TSU undergraduate population. (See Table 1 in attached document.) Over the last two years, the number of bachelor degrees awarded to adult students represents 45-50% of the total number of bachelor degrees awarded at the University as reflected in Table 2 of the attached document.

During the fall semester (2014) the Retention Officer for adult learners at AWC discovered, after a careful review of 125 adult student transcripts, that the majority of these students were experiencing difficulty with the general education English courses number 1010, 1020 and 2013. The analysis of 125 transcripts revealed that 81 students had repeated either English 1010 or 1020 or both courses at least once. Based on the information garnered from the analysis of adult student transcripts and the literature concerning teaching writing to this population, the AWC student support staff proceeded to work with the academic department to redesign three general education English courses, specifically targeting the methodology utilized in teaching adult students. These revised courses have been placed on the spring 2015 schedule and will be piloted this semester. These revised courses have been placed on the spring 2015 schedule and will be piloted this semester.

Several other courses followed relatively close behind English in terms of adult student failure. Thus, this proposal presents a request for funding to revitalize gateway courses to include andrological methodology addressing the academic needs of adult learners who major in Bachelor of Science in Health Sciences, Business Administration, Nursing, and Urban Studies. These undergraduate degree programs are housed at the AWC and target the non-traditional student population. The courses to be revised are: Biology 1010, 1020 (Introduction to Biology I and II); Biology 2210 and 2220 (Anatomy and Physiology) Math 1110 (College Algebra); Math 1830 (Calculus for Business majors).

The objective of this project will be to redesign gateway courses that may result in adult students “stopping-out.” The course revitalization will stress instructional strategies and methodology sensitive to the learning styles of the adult learner. The aim is not to water down course competencies, but to increase student success through understanding the way this population learns.

The departments involved have identified faculty who have experience teaching adult learners and/or who are receptive to becoming familiar with the current scholarship in adult learning theory. These persons will be tasked with revising course methodology during the semester prior to offering the course. Attendance at faculty development workshops facilitated by a scholar in the field of adult learning methodology will be provided for the designated faculty.

Academic Problem:

As stated above, TSU like other Tennessee institutions of higher education experiences the “stop-out” pattern practiced by adult learners and therefore lose a large number of this population and/or prolongs their ability to graduate in a timely fashion. In the list of priorities for adult learners, study at the University ranks third after family and employment; thus, interpretation of other data such as persistence and progression rates are far more difficult to gauge due to an adult student’s “stop-out” pattern of attendance. Results from a Tennessee Higher
Education Commission (THEC) study in which the retention of adults was analyzed over eleven semesters indicates that universities in Tennessee lose about half of their adults within the first year before it levels out, which is more than any other university student group listed (see Figure 1 on the attached document). The number of nontraditional undergraduates retained and graduated from TSU should be improved. Thus, the aim of revitalizing the prescribed courses is to decrease the “stop out” pattern as related to curriculum design thereby increasing the graduation rate of the adult students.

**Explain how the revitalized course will enhance student learning and improve student success:** Unlike traditional students who connect to the University within dormitories or social organizations and activities, adult students find their linkage to the University community within the classroom setting. It is, therefore, important for the instructor of adult learners to understand how to build community within the classroom. While it is clear that “adult learners are fundamentally different than their younger counterparts in many ways” many teachers have been “left to their own devices to figure out how best to reach these students who come to class with an entirely different set of challenges, demands and expectations, and generally at a much different level of maturity” (Doherty, 2015 – see reference list in attachment).

Most adult students are self-directed and bring various life experiences to the learning environment. These students have a different learning modality; they are motivated to learn intrinsically rather than by external factors such as praises or receiving rewards (Knowles, 1997 – see reference list in attachment). Adult learners are also more engaged and perform better when what they learn is meaningful and related to their lives. Nontraditional student learning increases when active learning is encouraged; this instructional method allows students to drive the learning process. The instructor as facilitator should design classroom activities that engage students in such practices as peer teaching, collaborative and cooperative learning experiences within and outside of class.

**Pilot Phase and objectives:**

The objective of this project will be to redesign gateway courses that may result in adult student “stop-out.” The course revitalization will stress instructional strategies and methodology sensitive to the learning styles of the adult learner. The aim is not to water down course competencies, but to increase student success through understanding the way this population learns.

Academic departments who have agreed to participate in this project have identified faculty who have experience teaching adult learners and/or who are receptive to becoming more familiar with the current scholarship in adult learning theory. The following professors have been identified: Biology 1010 & 1020 - Dr. Charlie Mtshali and Dr. Carla Gardner-Jones; Biology 2210 & 2220 - Dr. Michael Ivy and Dr. Lois Harlston; Math 1110 & 1830 - Dr. Wanda Payne, Dr. Jeanetta Jackson and Ms. Linda Woodruff.

These professors will have the task of revising course methodology during the semester prior to offering the redesigned course. Faculty development workshops, facilitated by a scholar in the field of adult learning theory and methodology, will be enlisted to guide faculty in their efforts to understand the learning style of this population. An andragogical approach, as opposed to a pedagogical one will be the foundation of any workshop provided to the faculty. Andragogy, according to Kenner & Weinerman, 2011 (see reference list in attachment), involves “approaches to learning that are problem-based and collaborative rather than didactic, and also emphasizes more equality between the teacher and learner.” The assigned instructors in collaboration with personnel in the AWC Student Support Services and Retention units will provide students enrolled in the newly designed courses with face-to-face (Avon Williams Campus) and/or online (Smartthinking) instructional support. A brochure outlining information concerning instructional support services will be distributed to each student enrolled in the classes.

**Project Steps:**
Spring 2015 - Provide adult learning theory workshops for the faculty; Spring 2015 - Faculty to submit work plan for course redesign including a plan for formative evaluation; Spring/Summer 2015 - Faculty to redesign courses; Fall 2015 - Offer the courses and conduct formative evaluations and alterations; Fall 2015 - Summative evaluation of the courses.

**Formative Evaluation Methods:**

Personnel in the Office of Retention and Student Support Services for Adult and Distance Learners will administer to the students enrolled: (a) a survey, at the beginning of the course, to determine the student’s academic/grade history with the course, and (b) a post-survey, at the end of the semester, to determine the effectiveness of the course methodology and the instructional support services provided. The measure of success will ultimately be the grades students earn in the courses and therefore an analysis of the grade distribution will be conducted.

**Who is required to take the course?**

This proposal targets entering and returning adult students majoring in the Bachelor of Science in Health Sciences, Business Administration, Nursing, and Urban Studies. The gateway courses that are obstacles to persistence are: Biology 1010, 1020 (Introduction to Biology I and II for Business Administration and Urban Studies majors); Biology 2210 and 2220 (Anatomy and Physiology for the Bachelor of Science in Health Sciences, and Nursing majors) Math 1110 (College Algebra); Math 1830 (Calculus for Business Administration majors).

Awareness of the newly redesigned courses will be announced through mail-outs, letters and emails to adult students; they will be advised to enroll in the courses through collaboration with the Student Success Center on the Main Campus and the Office of Student Support Services for Adult and Distance Learners on the Avon Williams Campus. Departmental advisors will be made aware of the course redesigns in order that they too may assist students.

**Collaborative Submission:**

No.
2015-2016 TBR Course Revitalization Project Summary

Course: Other
Other: OSA 1610
Past Student Headcount: 344  ABC%: 75

Description:

BURN 1302-Keyboarding with Word Processing (3 credit hours) was revitalized from OSA 1610-Keyboarding (2 credit hours) due to a TBR common core curriculum update. The implementation differs from the traditional course not only in credit hours provided, but the addition of Word processing utilizing Office 2013 offering online sections for students. The new course includes the software Keyboarding Pro Deluxe Online (KPDO), which allows students to receive interaction learning for the course.

Academic Problem:

The problems the new course addresses were updated use of Office 2013 and utilizing KPDO. The previous course did not apply Word as a component and students are now able to have practical use of the Office software in the most up to date features. OSA 1610 utilized a software which only targeted speed, accuracy, and did not include documents or an online option. With the revitalized course, documents are now included with an application to keying concepts.

Explain how the revitalized course will enhance student learning and improve student success: The revitalized course will enhance student learning and success by applying practical knowledge for real world skills. Overall, students will have an understanding of documents and keying concepts as well as an understanding of how to manipulate and produce business style reports. This is completed through creating, formatting, and editing Word files similar to office and business scenarios.

Pilot Phase and objectives:

The pilot phase began in spring 2015 and the current enrollment is 63 students. The project objectives are to determine comparative data between the revitalized course and the previous data for full implementation on student success rates. As part of the TBR common curriculum, the objectives were to include the Word portion to assist in the business and office degree programs.

Project Steps:

1. TBR curriculum update was implemented.
2. The previous course was analyzed and determined what should be updated for further use.
3. Following TBR requirements, BUSN 1302 went through the institution's catalog request for approval.
4. Faculty prepared for the pilot phase through course development, textbook and software review, and design
5. The pilot phase was prepared for student enrollment for spring 2015.

Formative Evaluation Methods:

The evaluation methods to measure course-delivery methods to achieve project objectives is comparing the previous data to the pilot phase. The additional skills assessments and online features will be evaluated to determine if the course delivery is effective in improving student learning.

Who is required to take the course?
Any student entering the A.A.S Office Administration degree program, Medical Office Assistant program, and the Business program. Each program has embedded certificates (with the exception of Medical Office). Other students across campus are capable of enrolling in the course as an elective.

**Collaborative Submission:**

No, this redesign is not part of any other collaboration.